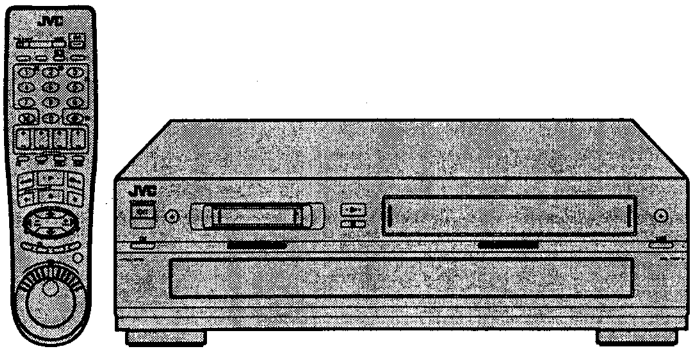
JVC

SERVICE MANUAL

/S-VHS VIDEO CASSETTE RECORDER

HR-DVS1E



Mini DV PAL
Hi-Fi S VHS 625
VIDEO Plus+

Power requirement : AC 220 – 240 V∿, 50/60 Hz
Power consumption
  Power on : 40 W
  Power off : 9.0 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD) : 437 x 127 x 380 mm
Weight : 7.6 kg
Input/Output : 21-pin SCART connectors :
IN/OUT x 1, IN/DECODER x 1
RCA connectors:
VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1
S-Video connectors: IN x 1, OUT x 1
DV connector: IN/OUT x 1
(4-pin, IEEE1394 conformity, digital input/output)

VHS DECK VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system : DA4 (Double Azimuth) head helical scan system
Format : S-VHS/VHS PAL standard
Signal-to-noise ratio : 45 dB
Horizontal resolution : 250 lines (VHS)
400 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
20 Hz to 20,000 Hz (Hi-Fi audio)
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette

DV DECK VIDEO/AUDIO

Signal system : PAL-type colour signal, 625 lines 50 fields
Recording system : Digital Component Recording
Format : DV format (SD mode)
Cassette : Mini DV Cassette
Maximum recording time
  (SP) : 60 min. with M-DV60ME cassette
  (LP) : 90 min. with M-DV60ME cassette
Audio recording system
: PCM 48 kHz, 16 bit (2 ch)/
32 kHz, 12 bit (4 ch)

TUNER/TIMER

TV channel storage capacity : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 47 – 89/104 – 300/
302 – 470MHz
UHF 470 – 862MHz
Memory backup time : Approx. 60 min.

ACCESSORIES

Provided accessories : RF cable, 21-pin SCART cable, Infrared remote control unit, Power cord, "AA" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

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October 1999

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorised in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

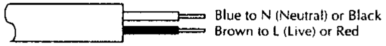
WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

IMPORTANT

- Please read the various precautions on p. 2 – 4 of this instruction manual before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

IMPORTANT

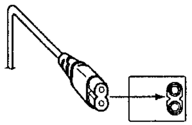
Connection to the mains supply in the United Kingdom.
DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain a proper safety approved extension lead/ adapter or consult your dealer.
In the unlikely event of the plug fuse failing be sure to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover. If the fuse fails again consult your nearest JVC dealer.
If nonetheless the mains plug is cut off remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.
If this product is not supplied fitted with a mains plug then follow the instructions given below:
DO NOT make any connection to the Larger Terminal coded E or Green.
The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured Black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
- Cassettes marked "Mini DV" can be used with the DV deck of this recorder. The DV deck can play back and record only PAL signals.
- VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.

CAUTION



- To avoid electric shock or damage to the unit, first firmly insert the small end of the mains power cord into the recorder until it is no longer wobbly, and then plug the larger end of the mains power cord into a mains outlet.
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

The STANDBY/ON ⏻/I button does not completely shut off mains power from the unit, but switches operating current on and off. " ⏻ " shows electrical power standby and " I " shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
   ... in an environment prone to extreme temperatures or humidity.
   ... in direct sunlight.
   ... in a dusty environment.
   ... in an environment where strong magnetic fields are generated.
   ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **AVOID violent shocks to the recorder during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

ABOUT HEAD CLEANING

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Be sure to contact your nearest JVC dealer if such troubles occur.

Some Do's And Don'ts On The Safe Use Of Equipment

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL...

- **NEVER** let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;
- **NEVER** guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

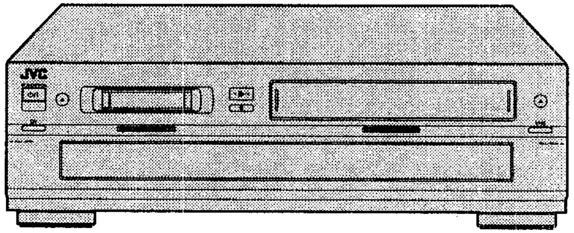
Dear Customer,

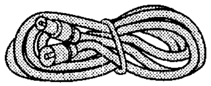
Thank you for purchasing this JVC Video Cassette Recorder.
Please use this **QUICK SET UP GUIDE** to help you to set up your video cassette recorder.

STEP 1 CHECK THE CONTENTS

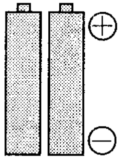
CHECK ALL THE CONTENTS SHOWN BELOW

Video Cassette Recorder

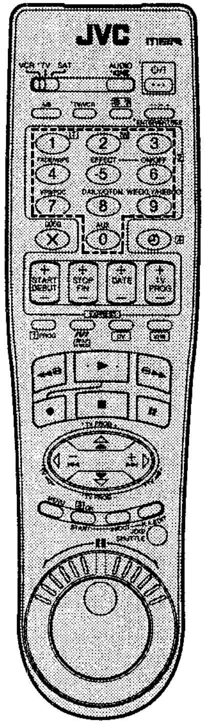


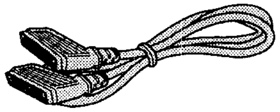


RF Cable

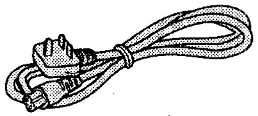


"AA" Batteries (x 2)





21-pin SCART Cable



Mains Power Cord

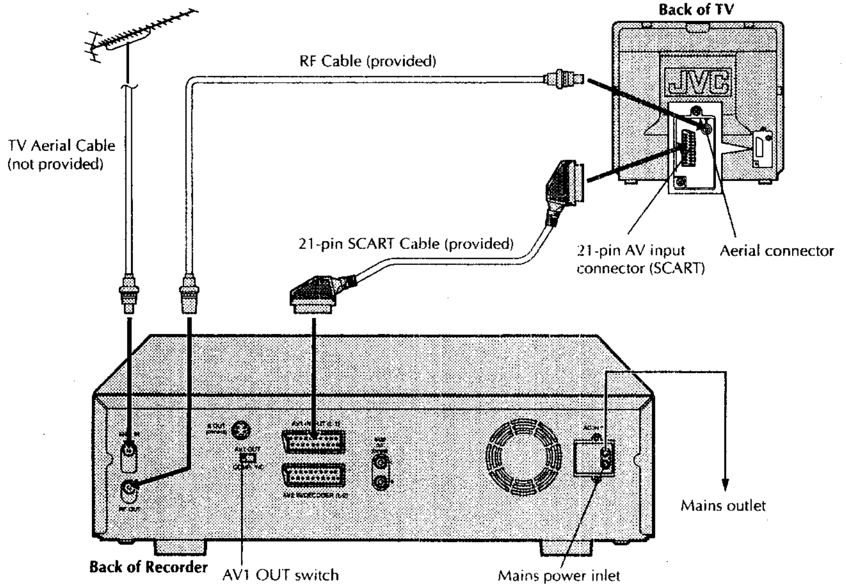
Infrared Remote Control Unit

▶ You are now ready to install your video recorder.

STEP 2 INSTALLATION

CONNECT VIDEO RECORDER TO TV

▶ Place the recorder on a stable, flat surface.


Back of TV
RF Cable (provided)
TV Aerial Cable (not provided)
21-pin SCART Cable (provided)
21-pin AV input connector (SCART)
Aerial connector
Mains outlet
Back of Recorder
AV1 OUT switch
Mains power inlet

ATTENTION:

You can not use the recorder connected to your TV only with the RF cable. This is because the RF cable does not deliver signal from the recorder. Your TV must have a 21-pin AV input connector (SCART) to connect to the recorder.

AV CONNECTION

To connect to a TV with 21-pin AV input connector (SCART) . . .

1– Disconnect the TV aerial cable from the TV.
2– Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
3– Connect the provided RF cable between the RF OUT jack on the rear panel of the recorder and the TV's aerial connector.
4– Connect the provided SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin AV input connector (SCART).
5– Set the **AV1 OUT** switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (☞ pg. 48). For output signal selection, use the **AV1 OUT** switch on the rear panel.

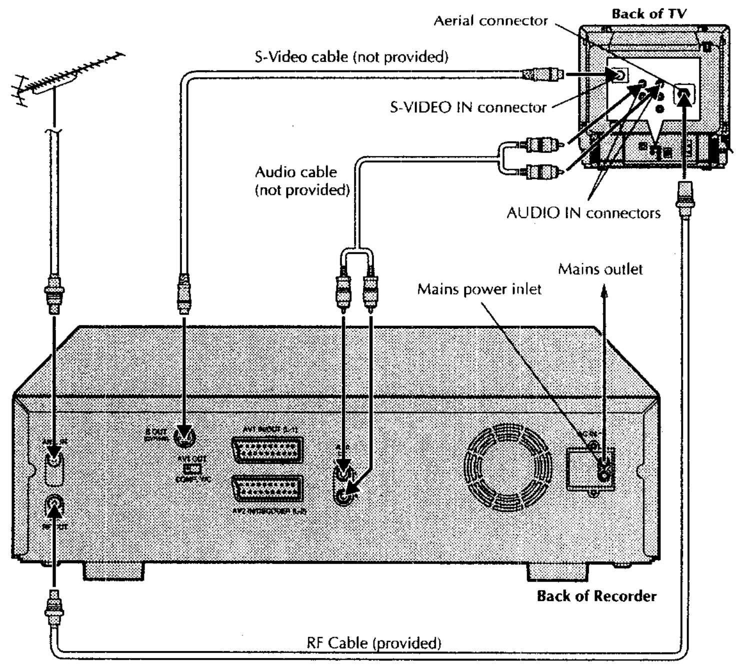
- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:

- *Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.*
- *For switching the TV's mode, refer to the instruction manual of your television.*
- *To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 7.*

ATTENTION

- ■ Do NOT Plug the mains power cord into a mains outlet until all connections are completed.
- ■ Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.


Aerial connector
Back of TV
S-Video cable (not provided)
S-VIDEO IN connector
Audio cable (not provided)
AUDIO IN connectors
Mains outlet
Mains power inlet
Back of Recorder
RF Cable (provided)

S-VIDEO CONNECTION

To connect to a TV with S-VIDEO/AUDIO IN connectors . . .

1– Connect the aerial, recorder and TV as per "AV CONNECTION" (☞ pg. 6).
2– Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.
3– Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

NOTES:

- *You can obtain high-quality S-VHS pictures.*
- *If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 58)*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode.*
- *For switching the TV's mode, refer to the instruction manual of your television.*

ATTENTION

- ■ Do NOT Plug the mains power cord into a mains outlet until all connections are completed.
- ■ Do NOT press the ⏻/I button on the recorder or on the remote control to turn on the recorder's power before you start the Auto Set Up procedure described on page 8.

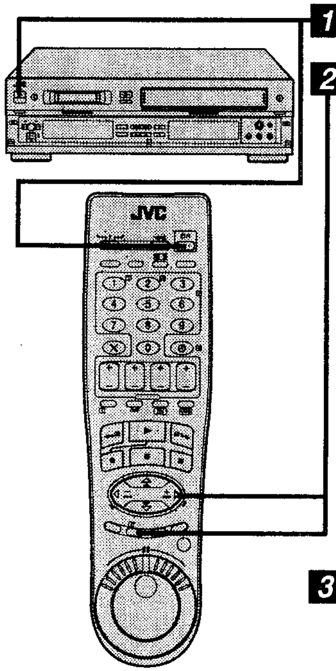
AFTER YOU FINISH THIS STEP ▷ *Go to Step 3 – AUTO SET UP*

STEP 3 AUTO SET UP

SET THE TUNER CHANNELS, CLOCK AND GUIDE PROGRAM NUMBERS

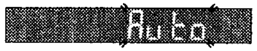
The Auto Set Up function sets the tuner channels, clock and VIDEO Plus+ assigned Guide Program numbers automatically the first time the ⏻/I button on the recorder or on the remote is pressed to turn on the recorder after the mains power cord has been plugged into a mains outlet.

Before performing the following procedure, make sure that:
- the TV aerial cable is connected to the recorder.
- the mains power cord is plugged into the mains outlet.
- batteries have been installed in the remote control.

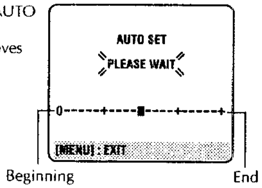


1 Press ⏻/I to turn on the recorder.

2 If "Auto" appears on the display panel, press **OK** or ▷. "Auto" blinks; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 10 or "– – :– –". Auto Set Up usually takes about 4 – 12 minutes; the duration varies by area.



- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "▮" mark on the screen moves from left to right.
- If "– –:– –" appears on the display panel, refer to page 10.



3 Press **OK** to finish Auto Set Up and refer to page 10 to check the results.

ATTENTION

Once you have performed Auto Set Up, all the stored stations and Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. If there is a power cut and the recorder's memory backup expires you only need to reset the clock. (☞ pg. 69)

If you have moved to a different area, perform each setting as required.
- Tuner setting ☞ pg. 62
- Clock setting ☞ pg. 69

If a new station begins broadcasting in your area, perform tuner setting (☞ pg. 62).

NOTES:
- *Auto channel set function takes place first; it assigns automatically all receivable stations in your area.*
- *Auto clock set function sets the clock automatically.*
- *During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the VIDEO Plus+ assigned Guide Program numbers for those stations according to the broadcast area.*
- *If there is a power cut or if you press ⏻/I or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and press ⏻/I to turn the power back on in order to re-start Auto Set Up.*

PRESET DOWNLOAD

SET THE TUNER CHANNELS BY DOWNLOADING FROM YOUR TV, CLOCK AND GUIDE PROGRAM NUMBERS

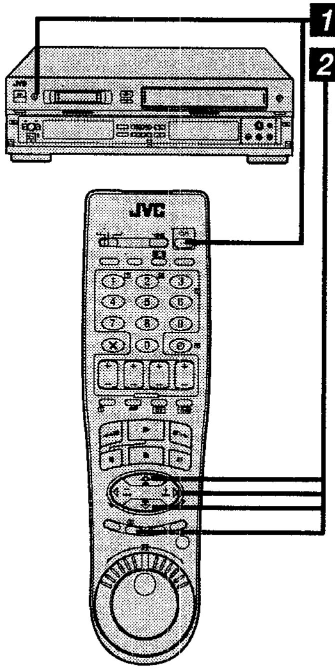
When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 6), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 8). After downloading is completed, the recorder sets the clock and VIDEO Plus+ assigned Guide Program numbers automatically.
For details, refer to the instruction manual for your TV.

ATTENTION

You can use this function only with a TV offering T-V Link, etc.*

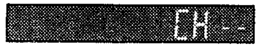
** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

Before performing the following procedure, make sure that:
- the TV aerial cable is connected to the recorder and a 21-pin SCART cable is connected between your TV and the recorder.
- the mains power cord is plugged into the mains outlet.
- batteries have been installed in the remote control.

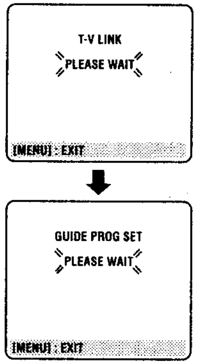


1 Press ⏻/I to turn on the recorder.

2 If "Auto" appears on the display panel, Press △▽ to select "CH – –" and press **OK** or ▷. Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 10 or "– – :– –".

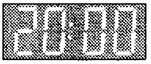


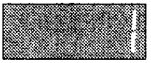
- If "– –:– –" appears on the display panel, refer to page 10.
- If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, this process will be interrupted and you will need to start again. See NOTES below.

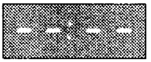


NOTES:
- *In areas where no TV station transmits the PDC signal, the recorder cannot perform either auto clock set or auto Guide Program number set.*
- *If there is a power cut, or if you press ⏻/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.*
- *Auto clock may not function properly depending on reception conditions.*
- *When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.*
- *On this recorder, the characters available for station names (ID) are A–Z, 0–9, –, *, + and ␣ (space). The names of some downloaded stations may differ from those on your TV (☞ pg. 66).*

Auto Set Up/Preset Download results appear on the display panel

A

When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed after the **OK** button is pressed in item **3** on page 8 or after performing item **2** on page 9.

B

When auto channel set has been completed successfully but auto clock set has not, "(PR)1" will be displayed after the **OK** button is pressed in item **3** on page 8 or after performing item **2** on page 9.

C

When neither auto channel set nor auto clock set has been completed successfully, "– –:– –" will be displayed.

* You can check if the Guide Program numbers have been set correctly when you perform VIDEO Plus+ Timer Programming (☞ pg. 18); if the correct preset position number is displayed in step **3**, this confirms that the Guide Program number for the PlusCode number you enter in step **2** has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
- If station names (ID — ☞ pg. 67) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 64 – 66.

Now you have finished the basic set up and can use your recorder for both playback and recording.

B If auto channel set has succeeded but auto clock set has not:

1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
- If station names (ID — ☞ pg. 67) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds each time the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change preset positions, or to set or change station names, see pages 64 – 66.

2 Perform "Clock Set" on page 69.

Now you have finished the basic set up and can use your recorder for both playback and recording.

C If both auto channel set and auto clock set have failed:

1 Make sure that the TV aerial cable is connected properly to the recorder, or that the 21-pin SCART cable is connected properly between TV and the recorder. Turn off the recorder power once, then turn the recorder power back on again.

2 Perform "Auto Set Up" on page 8 or "Preset Download" on page 9.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using VIDEO Plus+, the recorder will record a TV programme of a different station. When programming the timer using VIDEO Plus+, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 18, "VIDEO Plus+ Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 65.
- If any of the above problems occur, refer to pages 64 – 66 to input station names (☞ "Set Stations") or delete unnecessary stations (☞ "Delete A Channel"). You can also change station preset positions (☞ "Change Station Preset Position").

If you have any difficulty with the above procedures call the JVC Customer Service Hot Line on 0208 208 7654

T-V Link Functions

When you connect the recorder and your TV via a fully-wired 21-pin SCART cable (☞ pg. 6), the following functions are available. You can use these functions only with a TV offering T-V Link, etc.*
For details, refer to the instruction manual for your TV.

** Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

NexTView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.
For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.
For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.
For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.
Follow the procedure below to use this function.

1

TURN ON THE RECORDER

Press ⏻/I.

2

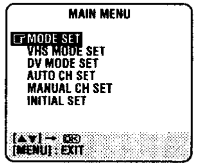
ACCESS MAIN MENU SCREEN

Press **MENU**.

3

ACCESS MODE SET SCREEN

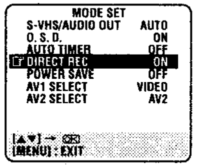
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4

SELECT DIRECT REC MODE

Press △▽ to move the highlight bar (pointer) to "DIRECT REC", then press **OK** or ▷ to set to "ON".


MODE SET
S-VHS/AUDIO OUT AUTO
O. S. D. ON
AUTO TIMER OFF
☞DIRECT REC ON
POWER SAVE OFF
AV1 SELECT VIDEO
AV2 SELECT AV2

5

RETURN TO NORMAL SCREEN

Press **MENU**.

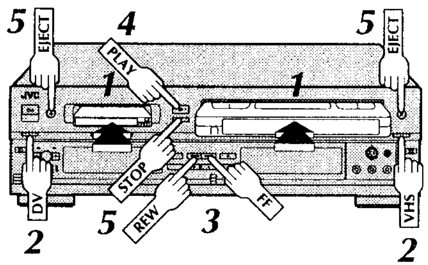
NOTES:

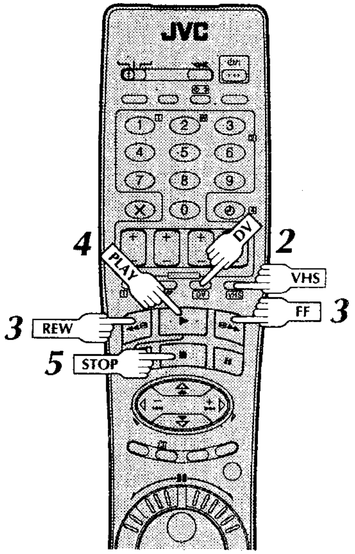
- *If "DIRECT REC" is set to "OFF", the* ***RECORD*** *button functions as described in "Recording" (☞ pg. 15).*
- *During the Direct Rec, "– –" appears on the display panel.*
- *When you perform T-V LINK functions, be sure to use a fully-wired 21-pin SCART cable.*
- *Retake function does not work during Direct Rec (☞ pg. 56).*
- *Direct Rec is not possible with a scrambled broadcast.*
- *To record a scrambled broadcast, set "DIRECT REC" to "OFF" and follow the procedure described in "Recording" on page 15.*

Playback

The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

Turn on the TV and select the AV mode.





1 LOAD A CASSETTE

Making sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointing towards the recorder. Don't apply too much pressure when inserting.

- The recorder power comes on automatically.
  The counter is reset to 0:00:00 (VHS deck only).
- **VHS deck**
  If the record safety tab has been removed, playback begins automatically.
  DV deck
  If the erase protection switch is set to "SAVE", playback begins automatically.

2 SELECT DECK

Press **VHS** or **DV**. The VHS or DV indicator lights.

3 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW**. To go forward, press **FF**.

4 START PLAYBACK

Press **PLAY**. "BEST" appears blinking in the recorder's display panel during automatic tracking. (VHS deck only ☞ pg. 24)

- Playback picture quality of LP recordings will not be as high as SP recordings.

5 STOP PLAYBACK

Press **STOP**. Then press **EJECT** on the VHS or DV deck to remove the cassette.

INFORMATION

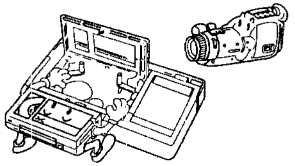
Initiating playback causes the VCR indicator to light and the TV to automatically enter AV mode. To return the TV to TV mode after playback is complete, press **TV/VCR** so that the VCR indicator turns off.

* Depending on the type of TV used, **TV/VCR** button does not always function as described above.

Usable cassettes

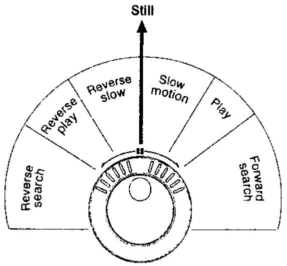
VHS deck

- Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- The VHS deck of this video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.



DV deck

Only cassettes marked MiniDV can be used with the DV deck.



NOTES:

- *Refer to the **SHUTTLE** ring illustration above as you read the following procedures.*
- *To use the remote control's **JOG** dial or **SHUTTLE** ring, press **JOG/SHUTTLE** first so that the button lights. Pressing the button again turns off the light.*
- *When using the **JOG** dial during playback on the DV deck, turn the **JOG** dial slowly.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE**.

OR

Press ◁ or ▷. (VHS deck only)

To resume normal playback, press **PLAY**.

Slow Motion

1 ACTIVATE SLOW-MOTION PLAYBACK

During still picture, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration above).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture. (VHS deck only)

OR

During still picture, press and hold ◁ or ▷. Release to return to still picture. (VHS deck only)

To resume normal playback, press **PLAY**.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTE:

*For short searches, press and hold **FF** or **REW** for over 2 seconds during playback or still picture. When released, normal playback resumes.*

Variable-Speed Search

1 ACTIVATE VARIABLE-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration in the left column).

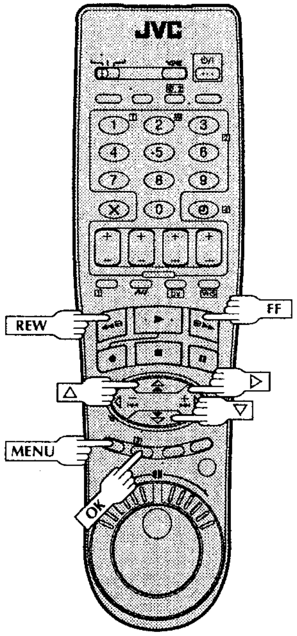
To resume normal playback, press **PLAY**.

ATTENTION (VHS Deck)

- In the high-speed search, still, slow-motion or frame-by-frame playback mode,
  - the picture will be distorted.
  - noise bars will appear.
  - there will be a loss of colour with a tape recorded in LP mode.
- Picture may not appear during high-speed search with a tape recorded in LP mode.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

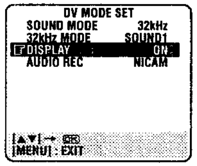
(DV Deck)

- In the high-speed search, still, slow-motion or frame-by-frame playback mode with a Mini DV tape, a slight mosaic effect appears on screen.



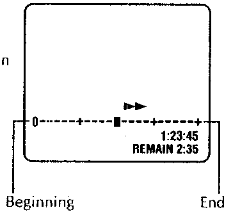
DISPLAY Mode Setting (DV Deck)

Set "DISPLAY" to "ON" to display the date and time of the original recording.



1 Press **MENU** to access the Main Menu screen.
2 Move the highlight bar (pointer) to "DV MODE SET" by pressing △▽, then press **OK** or ▷.
3 Move the highlight bar (pointer) to "DISPLAY" by pressing △▽, then press **OK** or ▷ to select "ON" or "OFF".
4 Press **MENU** to return to the normal screen.

Tape Position Indicator (VHS Deck)



The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

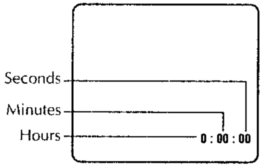
"O.S.D." (☞ pg. 52) must be set to "ON", or the indicator will not appear.

NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.

Time Code (DV Deck)

During recording, a time code is recorded on the tape. This time code is used to confirm the position on the tape when playing or editing a tape. To perform Random Assemble Editing (☞ pg. 36), time code is necessary.



NOTES:

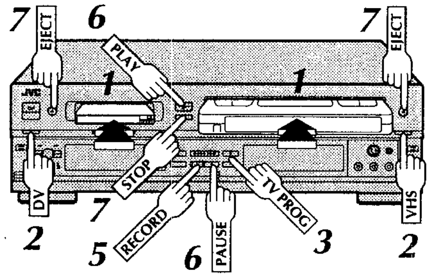
The presence of a blank (unrecorded) portion in the middle of a tape can result in misoperation.
A "blank portion" of a tape is a section where nothing is recorded on the tape. If you start making a recording in a blank portion of a tape, the time codes will start from "0:00:00" again. If identical time codes are recorded in two different places on a tape, Random Assemble Editing and other similar functions might not operate properly.

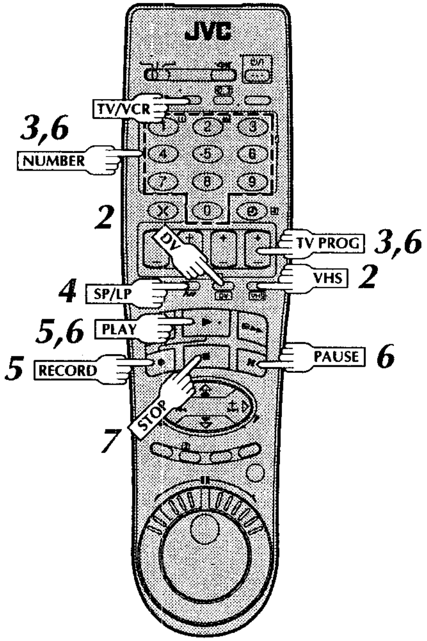
In the following circumstances, you should play the tape and confirm where a scene ends, and then begin recording from there:
- When starting to record in the middle of a tape on which a recording has already been made.
- When you have made a recording on a tape, then played that recording back in order to check it, and now wish to continue recording.
- When you have lost power or the batteries have died while you were recording with a camcorder.

Recording

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

Turn on the TV and select the AV mode.





INFORMATION

You can switch between TV mode and AV mode by pressing **TV/VCR**.
* Depending on the type of TV used, **TV/VCR** button does not function as described above.

1 LOAD A CASSETTE

Insert a VHS (or S-VHS) cassette with the record safety tab intact, or a Mini DV cassette with the erase protection switch set to "REC".

- The recorder power comes on automatically.
  The counter is reset to 0:00:00 (VHS deck only).

2 SELECT DECK

Press **VHS** or **DV**. The VHS or DV indicator lights.

3 CHOOSE A PROGRAMME

Press **TV PROG +/–** or the **NUMBER** keys to select the preset you wish to record.

4 SET TAPE SPEED

Press **SP/LP (////)**. Check the SP/LP indicator on the recorder display panel to confirm the selected tape speed.

- Picture quality of LP recordings will not be as high as on SP recordings.

5 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette (VHS deck only ☞ pg. 24).

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 11). (Only with a TV offering T-V Link)

- You can not change the preset whilst recording is in progress. To change the preset, see step **6**.

6 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

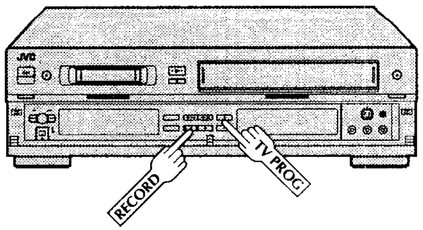
- During the Record Pause mode, you can change the preset by pressing the **TV PROG +/–** buttons or the **NUMBER** keys.

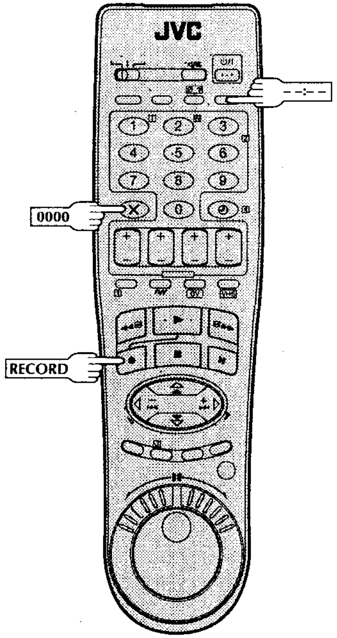
7 STOP RECORDING

Press **STOP**. Then press **EJECT** on the VHS or DV deck to remove the cassette.

NOTES:

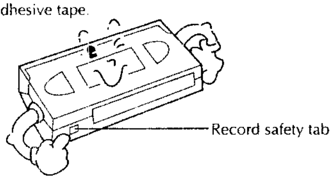
- *It is not possible to record a TV programme on both the VHS deck and the DV deck simultaneously.*
  In addition, it is not possible to record simultaneously from the same external input.
- *When you record a tape on the DV deck with the recording speed set to "LP", we recommend that you play that tape back on this deck. Digital video recorders from other manufacturers may not be able to play the tape properly.*



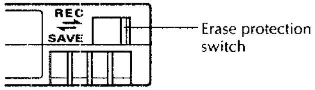


Accidental erasure prevention

- **VHS/S-VHS**
  To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



- **Mini DV**
  To prevent accidental recording on a recorded cassette, set its erase protection switch to "SAVE". To record on it later, set the switch to "REC".



Recording Resume Function

If there is a power cut during recording (or Instant Timer Recording or timer recording), the recording will resume automatically when power is restored to the recorder unless the recorder's memory backup has expired.

Record One Programme While Watching Another

1 SELECT PRESET TO WATCH

Once recording is in progress, all you need to do is to set the preset controls on the TV for the station you wish to view.

- The programme selected with the TV's preset controls appears on the TV screen while the one selected with the recorder's **TV PROG** buttons is recorded on the tape.

Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (VHS) or to 120 minutes (DV) (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

1 START RECORDING

Press **RECORD** on the recorder.

2 ENGAGE ITR MODE

Press **RECORD** again. "◷" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.

NOTES:

- *You can only perform ITR using the **RECORD** button on the recorder's front panel.*
- *You can play a tape or record from an external input on one deck while using the other deck for Instant Timer Recording. However, remember that the deck will turn itself off when the Instant Timer Recording ends.*

Tape Remaining Time (VHS Deck Only)

1 DISPLAY REMAINING TIME

Press – –:– – until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "◣" displayed.
- By pressing the – –:– – button, you can change the display to show the counter reading (VHS deck only), time code (DV deck only), channel position*, clock time or tape remaining time (VHS deck only).
  ** channel position is not displayed during playback.*

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "– –:– –" may sometimes appear, or the display may blink on occasion.

Elapsed Recording Time Indication (VHS Deck Only)

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press – –:– – until a counter reading appears on the dispay panel.

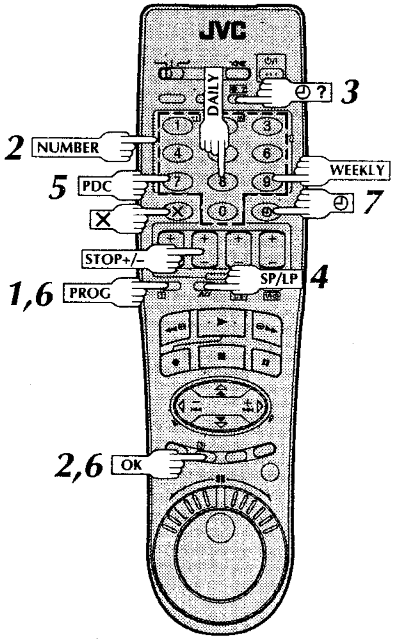
2 RESET COUNTER

Press **0000** before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

VIDEO Plus+ Timer Programming

Before performing VIDEO Plus+ Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Select the recording deck by pressing **VHS** or **DV**.
- Insert a VHS (or S-VHS) cassette with the safety tab in place, or a Mini DV cassette with the erase protection switch set to "REC". The recorder will come on automatically.
- Turn on the TV and select the AV mode.

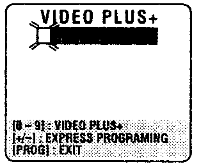


With VIDEO Plus+, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognise.

1

ACCESS VIDEO PLUS+ SCREEN

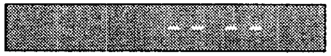
Press **PROG**.



VIDEO PLUS+

[0 – 9] : VIDEO PLUS+
[+/–] : EXPRESS PROGRAMING
[PROG] : EXIT

The front display panel looks like this:

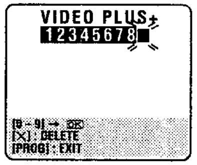


2

ENTER PLUSCODE NUMBER

Press the **NUMBER** keys to enter the PlusCode number of the programme you wish to record.

- If you make a mistake, press X and input the correct number.



VIDEO PLUS+
12345678

[0 – 9] → OK
[X] : DELETE
[PROG] : EXIT

The PlusCode number you enter appears on the front display panel:

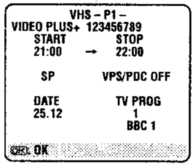
The display panel shows only a 4-digit number.

3

ACCESS VIDEO PLUS+ PROGRAM SCREEN

Press **OK**, and the VIDEO Plus+ Program screen appears (if you're just starting out, "P1" appears).

The display panel shows the programme start time. Pressing ⊕ **?** changes the display to the programme stop time, then the date and preset position.



VHS – P1 –
VIDEO PLUS+ 123456789
START → STOP
21:00 → 22:00
SP VPS/PDC OFF
DATE 25.12
TV PROG 1 BBC 1
OK : OK

IMPORTANT
Make sure the preset position number you wish to record is displayed; if not, see "VIDEO Plus+ Setup" on page 70 and set the Guide Program number for that PlusCode number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid PlusCode number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" on page 19.

4

SET TAPE SPEED

Press **SP/LP (/II/)** to set the tape speed.

5

SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the column below.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

6

RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **6** for each additional programme.

7

ENGAGE RECORDER'S TIMER MODE

Press ⊕ (**TIMER**). The recorder turns off automatically and ⊕ appears on the display panel.

- To disengage the timer, press ⊕ (**TIMER**) again.

NOTES:

- *To Change The Stop Time . . .*
  *. . . press **STOP +/–** after pressing **OK** in step **3**. You can compensate for anticipated programme schedule delays this way.*
- *To Timer-Record Weekly Or Daily Serials . . .*
  *. . . after pressing **OK** in step **3**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.*
- *You can programme the VHS deck and the DV deck to timer-record as many as 6 programmes each. If you try to programme each deck to record a seventh, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 22).*
- *It is not possible to timer-record a TV programme with a PlusCode number which starts with "0".*
- *It is not possible to timer-record the same programme on both the VHS deck and the DV deck simultaneously.*
- *If the times that are programmed for recording on the DV deck and on the VHS deck overlap, the earlier start time takes precedence. If the start times are the same, the VHS deck takes precedence.*

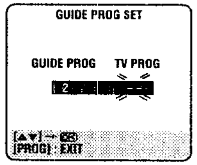
Satellite Receiver Users
To timer-record a satellite broadcast using VIDEO Plus+:
1. Set "AV2 SELECT" to the appropriate mode. (☞ pg. 48)
2. Perform steps **1** – 7.
3. Set the satellite receiver to the appropriate channel before the selected programme begins.
4. Leave the satellite receiver's power on.

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step **3** if the Guide Program number for the PlusCode number you entered has not been set.

- Press the **NUMBER** keys or △▽ to input the preset position number on which your recorder receives that station, then press **OK** or ▷ to set the Guide Program Number. The VIDEO Plus+ Program screen appears.

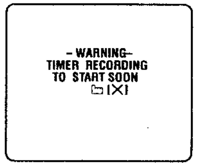


GUIDE PROG SET
GUIDE PROG 2
TV PROG - - -
[▲▼] → OK
[PROG] : EXIT

(Ex.) To timer-record a BBC2 programme with VIDEO Plus+.
* If your recorder receives BBC2 on the preset position 2, press **OK** or ▷ after entering "2".

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on the screen to tell you that the recording is due to start in 5 minutes.



– WARNING–
TIMER RECORDING
TO START SOON
[X]

NOTES:

- *The warning only appears if you're not in the Timer mode at the time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen will be recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.

PDC Recording

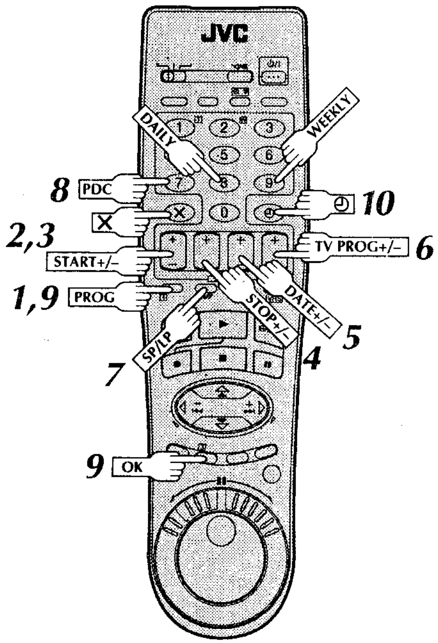
Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service in some areas.
All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel (☞ step 5 above).

NOTES:

- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*

Express Timer Programming

Before performing Express Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Select the recording deck by pressing **VHS** or **DV**.
- Insert a VHS (or S-VHS) cassette with the safety tab in place, or a Mini DV cassette with the erase protection switch set to "REC". The recorder will come on automatically.
- Turn on the TV and select the AV mode.



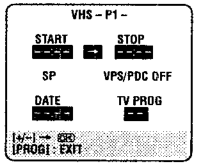
If you don't know the PlusCode number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1 ACCESS VIDEO PLUS+ SCREEN

Press **PROG**.

2 ACCESS PROGRAMME SCREEN

Press **START +/–**. (If you're just starting out, "P1" appears.)

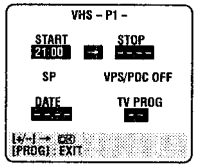


The front display panel looks like this:

3 ENTER PROGRAMME START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:

4 ENTER PROGRAMME STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

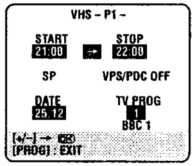
- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

5 ENTER PROGRAMME DATE

Press **DATE +/–** to enter the date on which you wish to record. (The current date first appears on screen. The date you enter will appear in its place.)

6 ENTER PRESET POSITION

Press **TV PROG +/–** to enter the preset position corresponding to the broadcasting station you wish to record.



7 SET TAPE SPEED

Press **SP/LP (▱/▱▱)** to set the tape speed.

8 SET PDC MODE

Press **PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, PDC is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, PDC is set to OFF.
☞ "PDC Recording" in the right column.

- VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.

9 RETURN TO NORMAL SCREEN

After confirming all information is correct, press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **9** for each additional programme.

10 ENGAGE RECORDER'S TIMER MODE

Press ⏲ (**TIMER**). The recorder turns off automatically and ⏲ appears on the display panel.

- To disengage the timer, press ⏲ (**TIMER**) again.

To Timer-Record Weekly Or Daily Serials . . .
. . . anytime during steps **2** through **9**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme the VHS deck and the DV deck to timer-record as many as 6 programmes each. If you try to programme each deck to record a seventh, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 22).

Satellite Receiver Users
To timer-record a satellite broadcast using Express Timer Programming:
1. Set "AV2 SELECT" to the appropriate mode. (☞ pg. 48)
2. Perform steps **1** – **10**. Enter "L-2" for the preset position in step **6**.
3. Set the satellite receiver to the appropriate channel before the selected programme begins.
4. Leave the satellite receiver's power on.

PDC Recording

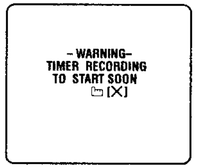
Now available from some TV stations, PDC (Programme Delivery Control) is a service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times which you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed from what has been advertised. PDC is currently available nationally on BBC1, BBC2, Ch.4 and Ch.5, except from a few small relay transmitters. Ch.3 operates a PDC service in some areas. All channels intend to offer this service in due course. Check your TV programme listing guide for latest information. If the channel you intend to record does not offer a PDC service your recorder will not start recording if PDC has been selected. Be sure to set PDC to "OFF" if PDC is not available on your selected channel.
(☞ step **8** in the left column).

NOTES:

- *Set the start time (PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.*
- *PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *PDC recording is also possible via the AV1 IN/OUT connector.*

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on the screen to tell you that the recording is due to start in 5 minutes.

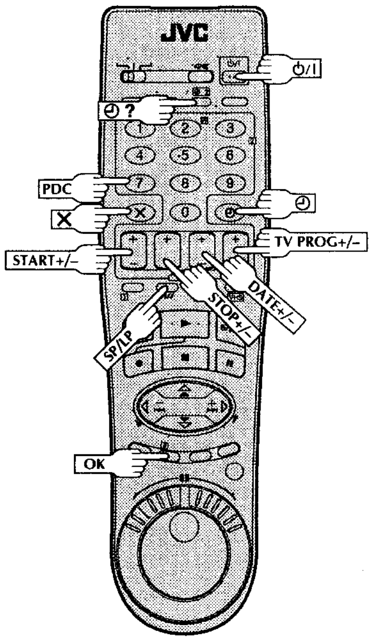


– WARNING–
TIMER RECORDING
TO START SOON
⏏ [X]

NOTES:

- *The warning only appears if you're not in the Timer mode at the time.*
- *If this recorder is being used as the player for tape dubbing, the warning screen will be recorded on the tape in the other video recorder.*

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.



Check, Cancel And Replace Programmes

1

DISENGAGE TIMER MODE

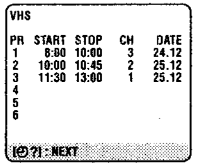
Press ⊕, then press ⏻/I.

2

ACCESS PROGRAMME CHECK SCREEN/DISPLAY

Press ⊕ ?.

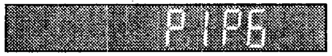
- The programme check screen or display appears for the deck (VHS or DV) being selected.



VHS

PR	START	STOP	CH	DATE
1	8:00	10:00	3	24.12
2	10:00	10:45	2	25.12
3	11:30	13:00	1	25.12
4				
5				
6				

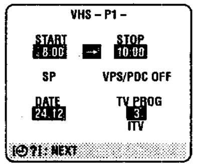
[⊕ ?] : NEXT



3

ACCESS PROGRAMME SCREEN/ DISPLAY

Press ⊕ ? again to check more information. Each time you press ⊕ ?, the next programme's information appears.



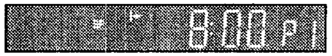
VHS – P1 –

START 8:00 → STOP 10:00

SP VPS/PDC OFF

DATE 24.12 TV PROG 3 ITV

[⊕ ?] : NEXT



- The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the preset position.

To cancel or replace a programme...

4

CANCEL OR REPLACE A PROGRAMME

Press X to cancel a programme. To replace a programme, press the appropriate button: **START+/–, STOP+/–, DATE+/–, TV PROG+/–, SP/LP (///), PDC.**

5

RETURN TO NORMAL SCREEN/ DISPLAY

Press ⊕ ? as many times as necessary. If there are still some programmes to be recorded, go on to step **6**.

6

RETURN TO TIMER MODE

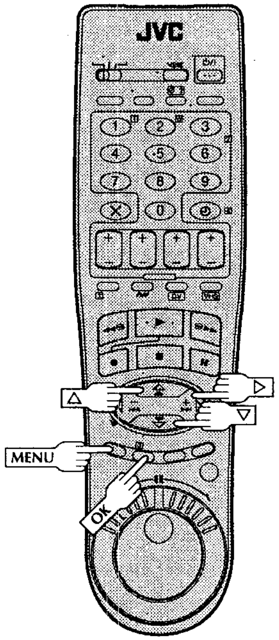
Press ⊕.

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode ☞ pg. 53) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

Recording According To Tape Type

Turn on the TV and select the AV mode.



S-VHS (Super VHS) and VHS (VHS Deck Only)

Your recorder can record in either S-VHS or VHS.

To record in S-VHS:
Perform the steps **1** – **4** below to set "S-VHS" to "AUTO".
Then, insert a cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
The S-VHS recording mode will be selected.

To record in VHS:
Insert a cassette marked "VHS".
The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

To record in VHS on an S-VHS cassette:
Insert the cassette marked "S-VHS", the S-VHS indicator will light on the display panel.
Then, perform the steps **1** – **4** below to set the "S-VHS" to "OFF"; the S-VHS indicator will go out.
The VHS recording mode will be selected.

1

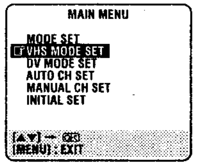
ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS VHS MODE SET SCREEN

Move the highlight bar (pointer) to "VHS MODE SET" by pressing △▽, then press **OK** or ▷.



MAIN MENU

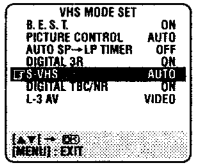
MODE SET
☞VHS MODE SET
DV MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET

[▲▼] → OK
[MENU] : EXIT

3

SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing △▽, then press **OK** or ▷ to select "AUTO" or "OFF".



VHS MODE SET

B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP→LP TIMER	OFF
DIGITAL 3R	ON
☞S-VHS	AUTO
DIGITAL TBC/NR	ON
L-3 AV	VIDEO

[▲▼] → OK
[MENU] : EXIT

4

RETURN TO NORMAL SCREEN

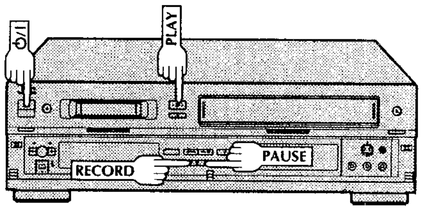
Press **MENU**.

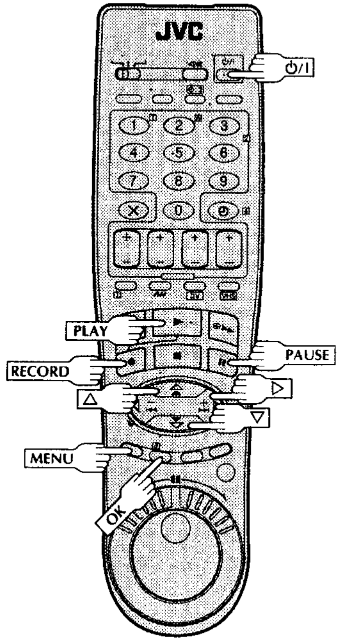
NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.

Playback/ Recording According To Tape Characteristics

Turn on the TV and select the AV mode.





B.E.S.T. Picture System (VHS Deck Only)

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

1

TURN ON THE RECORDER

Press ⏻/I.

2

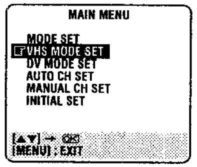
ACCESS MAIN MENU SCREEN

Press **MENU**.

3

ACCESS VHS MODE SET SCREEN

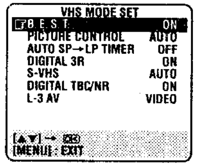
Press △▽ to move the highlight bar (pointer) to "VHS MODE SET", then press **OK** or ▷.



4

SELECT B.E.S.T. MODE

Press △▽ to move the highlight bar (pointer) to "B.E.S.T.", then press **OK** or ▷ to set to "ON" or "OFF".



VHS MODE SET
☞B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
S-VHS AUTO
DIGITAL TBC/NR ON
L-3 AV VIDEO

5

RETURN TO NORMAL SCREEN

Press **MENU**.

Recording

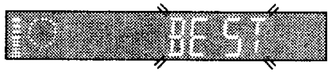
1

START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.

DURING B.E.S.T.

B.E.S.T. COMPLETE



- The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- *The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.*
- *In the case of timer recording, the B.E.S.T. system works before recording is initiated.*
- *Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.*
- *Pressing the recorder's **RECORD** button while "BEST" is displayed does not start Instant Timer Recording (☞ pg. 17).*

ATTENTION

*Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:*

*1) Press and hold **PAUSE** and press **RECORD** to engage the RECORD PAUSE mode.*
  - *The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.*

*2) Press **PLAY** when you are ready to start recording.*
  - *If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step **4** on page 24.*

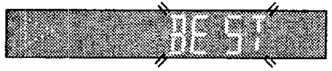
Playback

The recorder assesses the quality of the tape once you initiate playback.

1

START PLAYBACK

Press **PLAY**.

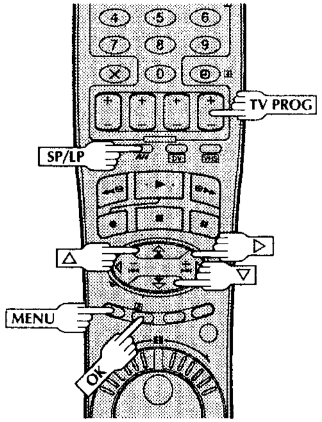


- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

NOTES:

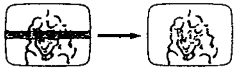
- *When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.*
- *When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps **1** through 5 on page 24.*
- *"BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.*

Playback Picture Adjustment



Manual Tracking (VHS Deck Only)

Your video recorder is equipped with automatic tracking control. For most tapes this will automatically adjust the tracking to suit the particular tape you are playing. In some circumstances it may be necessary to make manual tracking adjustments. This is usually only associated with old or worn tapes or recordings made on old or worn recorders. If the automatic tracking control fails to operate correctly you will see noise bars across the picture as shown on the left below. To correct this you can override the automatic control and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **////** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or – to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **////** on the remote to re-engage automatic tracking.

NOTE:

When a new tape is inserted, the recorder returns to the automatic tracking mode automatically.

Digital TBC/NR (VHS Deck Only)

Your video recorder is equipped with a Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes. The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.

* The default setting is "ON".

We recommend that you use the Digital TBC feature when...

... playing back a tape recorded on a camcorder.

... playing back a tape repeatedly used.

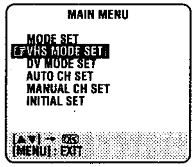
... using this video recorder as the player for editing.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlight bar (pointer) to "VHS MODE SET" by pressing △▽, then press **OK** or ▷.



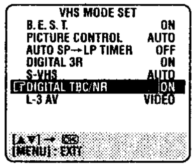
MAIN MENU

MODE SET
☞VHS MODE SET
DV MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET

[▲▼] → OK
[MENU] : EXIT

3 SELECT DIGITAL TBC/NR SET MODE

Move the highlight bar (pointer) to "DIGITAL TBC/NR" by pressing △▽, then press **OK** or ▷ to set to "ON".



VHS MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
S-VHS AUTO
☞DIGITAL TBC/NR ON
L-3 AV VIDEO

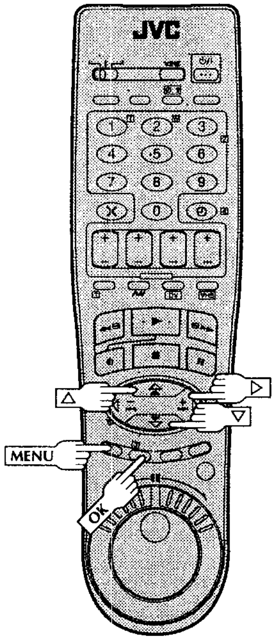
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with "Digital TBC/NR" set to "OFF".*
- *When "Digital TBC/NR" is set to "ON", if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, set "Digital TBC/NR" to "OFF".*



Digital 3R (VHS Deck Only)

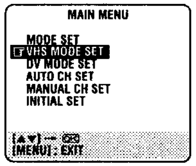
Digital 3R picture system applies edge correction to the luminance signal to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlight bar (pointer) to "VHS MODE SET" by pressing △▽, then press **OK** or ▷.



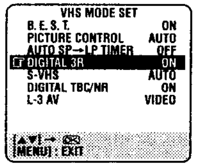
MAIN MENU

MODE SET
☞VHS MODE SET
DV MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET

[▲▼] → OK
[MENU] : EXIT

3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (pointer) to "DIGITAL 3R" by pressing △▽, then press **OK** or ▷ to set to "ON".



VHS MODE SET
B. E. S. T. ON
PICTURE CONTROL AUTO
AUTO SP→LP TIMER OFF
☞DIGITAL 3R ON
S-VHS AUTO
DIGITAL TBC/NR ON
L-3 AV VIDEO

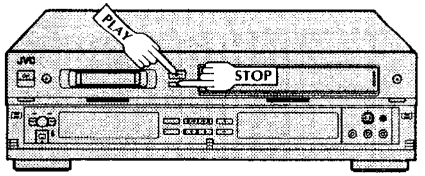
[▲▼] → OK
[MENU] : EXIT

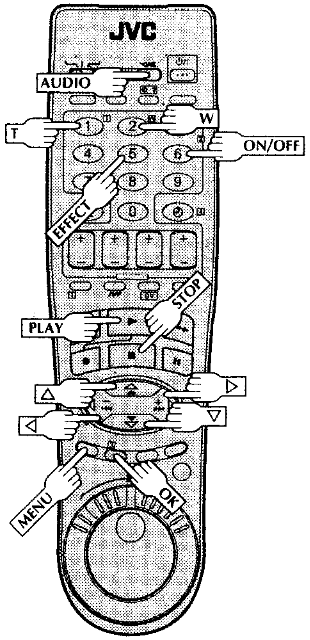
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *Normally it is recommendable to keep "DIGITAL 3R" set to "ON".*
- *Depending on the type of tape being used, picture quality may sometimes be better with "DIGITAL 3R" set to "OFF".*





Zoom (DV Deck Only)

This function allows you to zoom in on a portion of the screen during playback.

1 ZOOM DURING PLAYBACK

Press **T** to zoom in on an image during playback. Press **W** to zoom out.

2 MOVE SCREEN

After zooming in, use △▽◁▷ to move the screen up, down, left, or right.

3 STOP ZOOM

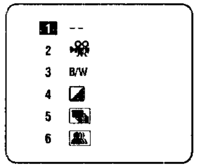
To leave the zoom view and return to the normal screen, press **W**. Another method is to press **STOP**, and then press **PLAY**.

Playback Effects
(DV Deck Only)

This function allows you to temporarily insert playback effects on the screen during playback. Because these effects are not recorded on the tape, you will only see the original image when you play back the tape next time.

1 ACTIVATE PLAYBACK EFFECT

Press **EFFECT** repeatedly (within two seconds) to select the desired playback effect (refer to the chart below).



2 STOP PLAYBACK EFFECT

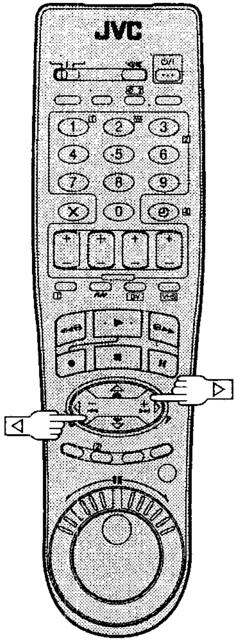
Press **ON/OFF** to turn off the playback effect. Pressing **ON/OFF** again causes the selected playback effect to re-appear.

MENU ICON	EFFECT
-- --	Select when you do not want to use any playback effects.
CLASSIC FILM	Select when you want to add a movie-like effect to the playback by omitting frames.
B/W MONOTONE	Select when you want the playback to be in black & white.
SEPIA	Select when you want to add a sepia tone to the playback so that it resembles an old photograph.
STROBE	Select when you want to add a strobe light effect so that the playback resembles a series of fast, discrete still images.
VIDEO ECHO	Select when you want to add ghosting to the video to create a dream-like effect.

NOTE:

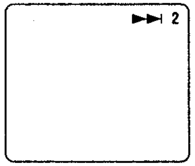
Playback Effect does not work when dubbing from the VHS deck to the DV deck.

Looking For The Scene You Want



Index Search
(VHS Deck Only)

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.



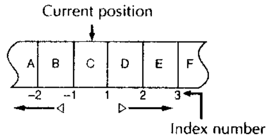
NOTE:

Before starting, make sure the recorder is in the Stop mode.

1 ACTIVATE INDEX SEARCH

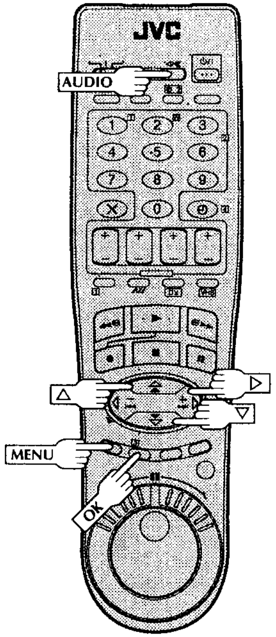
Press ◁ or ▷ (|◄◄ or ►►|). "|◄◄ 1" or "►►| 1" is displayed on screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press ◁ or ▷ repeatedly until the correct index number is displayed.
  Ex.: To locate the beginning of B from the current position, press ◁ twice.
  To locate the beginning of D from the current position, press ▷ once.



- When the specified index code is located, playback begins automatically.

Selecting The Sound You Want



Soundtrack Selection (VHS Deck)

The VHS recording deck is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK	USE
On-Screen Display	
HI FI L 🔊 🔊 R	For Hi-Fi stereo tapes
HI FI L 🔊	For main audio of Bilingual tapes
HI FI 🔊 R	For sub audio of Bilingual tapes
NORM	For audio-dubbed tapes
HI FI NORM	For audio-dubbed tapes

NOTES:

- *"HIFI L 🔊 🔊 R" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.*
- *For instructions on recording stereo and bilingual programmes, refer to page 32.*
- *Bilingual programmes are not currently broadcast in the U.K.*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 52).*

Soundtrack Selection (DV Deck)

The DV recording deck is capable of recording two soundtracks (L and R) and will play back the one you select.

During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

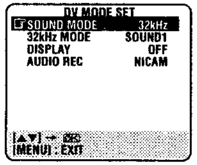
TRACK	USE
On-Screen Display	
L 🔊 🔊 R	For stereo or Bilingual tapes
L 🔊	For main audio of Bilingual tapes
🔊 R	For sub audio of Bilingual tapes

NOTE:

- Bilingual programmes are not currently broadcast in the U.K.

Sound Mode Selection (DV Deck)

1. Press **MENU** to access the Main Menu screen.
2. Move the highlight bar (pointer) to "DV MODE SET" by pressing △▽, then press **OK** or ▷.
3. Move the highlight bar (pointer) to "SOUND MODE" by pressing △▽, then press **OK** or ▷ to select "32kHz" or "48kHz".
4. Press **MENU** to return to the normal screen.



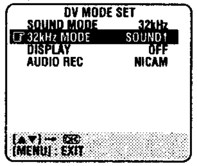
```
DV MODE SET
SOUND MODE      32kHz
32kHz MODE     SOUND1
DISPLAY           OFF
AUDIO REC       NICAM
```

NOTE:

Set "SOUND MODE" to "32kHz" at the original recording on a Mini DV tape, if you wish to perform Audio Dubbing later.

32kHz Mode Setting (Audio-dubbed Mini DV Tape)

1. Press **MENU** to access the Main Menu screen.
2. Move the highlight bar (pointer) to "DV MODE SET" by pressing △▽, then press **OK** or ▷.
3. Move the highlight bar (pointer) to "32kHz MODE" by pressing △▽, then press **OK** or ▷ to select "SOUND1", "SOUND2" or "FULL SOUND".
4. Press **MENU** to return to the normal screen.



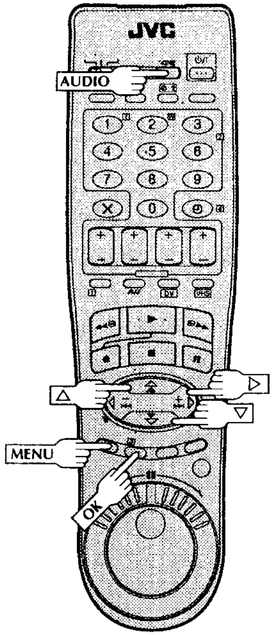
```
DV MODE SET
SOUND MODE      32kHz
32kHz MODE     SOUND1
DISPLAY           OFF
AUDIO REC       NICAM
```

32kHz MODE	SOUND YOU HEAR
SOUND1	Original recorded sound
SOUND2	Audio-dubbed sound
FULL SOUND	Original recorded sound and Audio-dubbed sound

NOTES:

When "32kHz MODE" is set to "FULL SOUND":

- *For bilingual tapes, both the main and sub audio will be audible.*
- *To select just the main audio or just the sub audio of Bilingual tapes, set "32kHz MODE" to "SOUND1".*



Receiving NICAM Stereo And Bilingual Programmes

Your recorder is equipped with a Digital stereo sound decoder (NICAM), making reception of stereo and bilingual broadcasts possible.

When the recorder is tuned to a different station, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** until "HI FI L ⊳ ⊲ R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** until "HI FI L ⊳" or "HI FI ⊲ R" appears on the screen (as required).
- To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** until "NORM" appears on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 52).

To Record NICAM Stereo And Bilingual Programmes (Only For The Users In Eastern Europe)

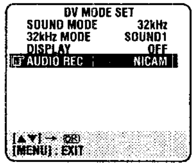
- **VHS deck**
  The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.
- **DV deck** (See "AUDIO REC Mode Setting" below.)

NOTES:

- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (☞ pg. 30, 31).*

AUDIO REC Mode Setting

1. Press **MENU** to access the Main Menu screen.
2. Move the highlight bar (pointer) to "DV MODE SET" by pressing △▽, then press **OK** or ▷.
3. Move the highlight bar (pointer) to "AUDIO REC" by pressing △▽, then press **OK** or ▷ to select "NICAM" or "MONO".
4. Press **MENU** to return to the normal screen.

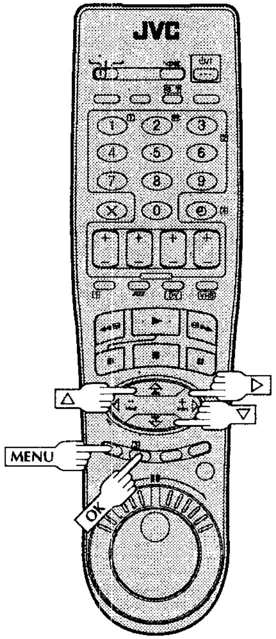


```
DV MODE SET
SOUND MODE      32kHz
32kHz MODE     SOUND1
DISPLAY           OFF
☞AUDIO REC      NICAM
[▲▼] → OK
[MENU] : EXIT
```

- When "AUDIO REC" is set to "NICAM", the NICAM audio programme will be recorded on the audio track.
- When "AUDIO REC" is set to "MONO", the Standard (monaural) audio program will be recorded on the audio track.

Minimizing Picture Degradation While Editing

Turn on the TV and select the AV mode.



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control (VHS Deck Only)

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

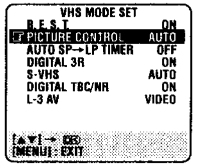
Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlighted bar (pointer) to "VHS MODE SET" by pressing △▽, then press **OK** or ▷.

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing △▽, then press **OK** or ▷ to select the desired mode.



```
VHS MODE SET
B.E.S.T.                  ON
☞PICTURE CONTROL        AUTO
AUTO SP→LP TIMER         OFF
DIGITAL 3R                ON
S-VHS                   AUTO
DIGITAL TBC/NR            ON
L-3 AV                 VIDEO
[▲▼] → OK
[MENU] : EXIT
```

AUTO:	Provides optimised picture benefits of B.E.S.T. Picture System. Normally select AUTO.
EDIT:	Minimizes picture degradation during editing (recording and playback).
SOFT:	Reduces image coarseness when viewing overplayed tapes containing a lot of noise.
SHARP:	Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

NOTES:

- *When you select EDIT, SOFT or SHARP, the selected mode will not change until you select again.*
- *When you select EDIT to dub tapes, be sure to select AUTO after you finish dubbing the tapes.*

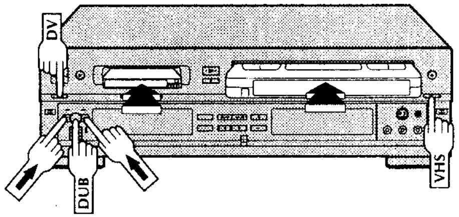
4 RETURN TO NORMAL SCREEN

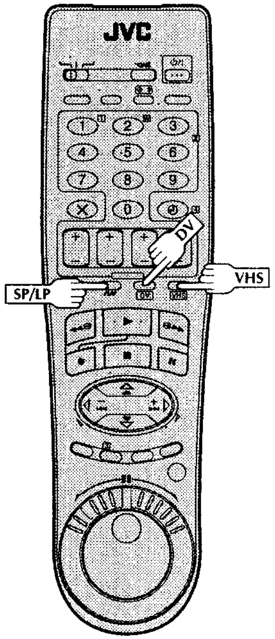
Press **MENU**.

NOTES:

- *When B.E.S.T. is OFF, "PICTURE CONTROL" switches automatically from AUTO to NORM.*
- *Select EDIT when you are dubbing tapes. Refer to page 42.*

Tape Dubbing





Dubbing An Entire Cassette

Because this recorder includes both a VHS deck and a DV deck, you can easily use it for dubbing without connecting any other equipment.

1

LOAD CASSETTES

Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

2

SELECT DUBBING DIRECTION

Press → when you want playback on the DV deck and recording on the VHS deck.

OR

Press ← when you want playback on the VHS deck and recording on the DV deck.

3

SET TAPE SPEED

Press **VHS** or **DV** for the recording deck, then press **SP/LP (////)**.

4

START DUBBING

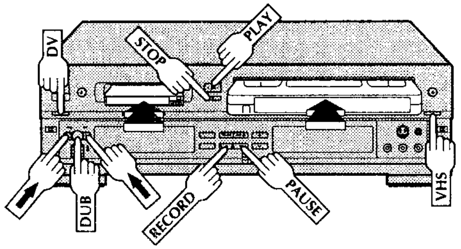
Press **DUB** for two seconds.

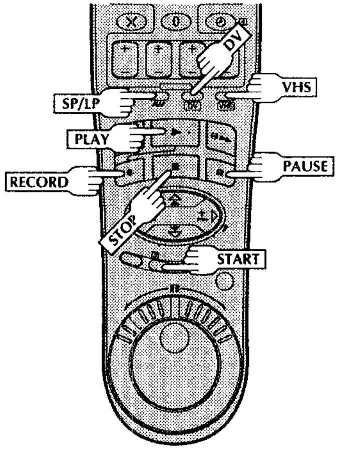
- If the tapes have not been rewound, both decks rewind automatically. The recording deck goes into Record-Pause mode, and the playback deck goes into Pause mode.
  When both decks have finished rewinding, dubbing begins automatically.
  After dubbing is completed, the decks rewind both tapes automatically and eject them. The recorder then shuts off.

NOTES:

- *If you set the dubbing direction incorrectly, you could erase an important recording that you wanted to copy. We recommend conducting a test with unimportant cassettes first.*
- *On the cassette that you are playing (i.e., recording from) we recommend either setting the erase protection switch to "SAVE" (if the cassette is a Mini DV cassette), or breaking off the record safety tab (if the cassette is a VHS cassette).*

Normal Dubbing





NOTES:

- *There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.*
- *The on-screen display during the operation or dubbing is not recorded.*
- *When dubbing from the VHS deck to the DV deck, also set "SOUND MODE" to the appropriate mode (☞ pg. 31).*

When dubbing from the DV deck to the VHS deck:

- *You can record the date and time by setting "DISPLAY" to "ON" (☞ pg. 14).*
- *You can also insert playback effects (☞ pg. 28).*
- *When dubbing a Mini DV tape that was produced by audio dubbing, you need to set "32kHz MODE" to the appropriate mode before playing the tape (☞ pg. 31).*

You can dub selected scenes on a tape, starting and stopping wherever you wish.

1

LOAD CASSETTES

Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

2

SELECT DUBBING DIRECTION

Press → when you want playback on the DV deck and recording on the VHS deck.

OR

Press ← when you want playback on the VHS deck and recording on the DV deck.

3

SET TAPE SPEED

Press **VHS** or **DV** for the recording deck, then press **SP/LP (////)**.

4

LOCATE START POINT

For the playing deck:
Press **VHS** or **DV** to selsct the playing deck.
Press **PLAY** to start playback of the tape in the playing deck, and press **PAUSE** to pause playback when you find the point where you want to start dubbing.

For the recording deck:
Press **VHS** or **DV** to select the recording deck. Press and hold **PAUSE** and press **RECORD** so that the recording deck enters the Record-Pause mode.

5

START DUBBING

Press **START**.

6

PAUSE DUBBING

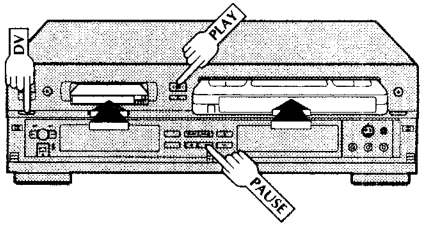
Press **START**.

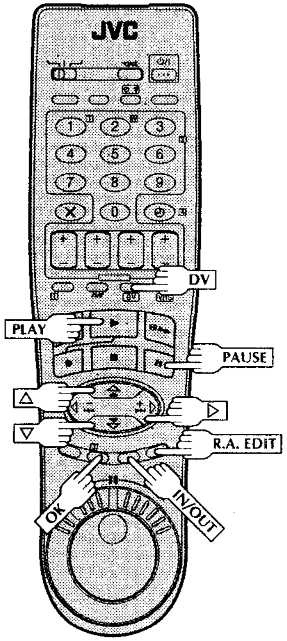
7

END DUBBING

Press **STOP**. Then press **VHS** or **DV** to select the playing deck and press **STOP**.

Random Assemble Editing





64-program Editing Memory (8 programmes x 8 scenes)

By using the Random Assemble Editing function, you can select up to 8 scenes from a previously recorded Mini DV cassette and automatically dub them onto a VHS cassette. You can also insert Fade/Wipe effects between scenes (☞ pg. 39), and make changes to the video by using Playback Effects (☞ pg. 28).

Random Assemble Editing is possible only when dubbing from the DV deck to the VHS deck.

1 LOAD CASSETTES

Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

2 SELECT DV DECK

Press DV.

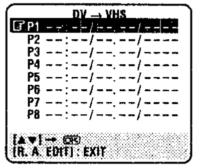
3 ACCESS R.A. EDIT SCREEN

Press **R.A. EDIT**. R.A. EDIT screen will appear.

4 SELECT PROGRAMME

Press △▽ to move the highlight bar (pointer) to the programme number you want to edit, then press **OK** or ▷.

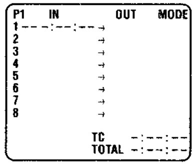
- To remove a programme from the R.A. EDIT screen, select the programme number, then press X for more than 2 seconds.



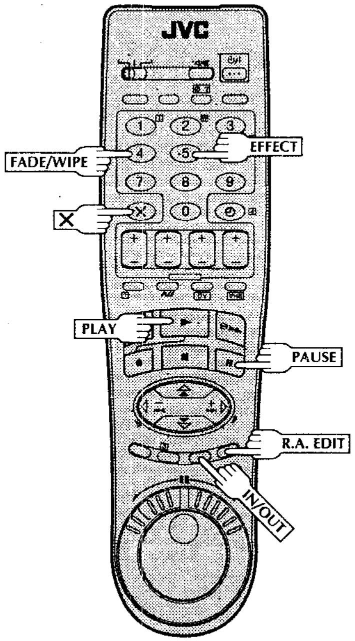
```
        DV → VHS
☞P1 --:--/--.--/----
 P2 --:--/--.--/----
 P3 --:--/--.--/----
 P4 --:--/--.--/----
 P5 --:--/--.--/----
 P6 --:--/--.--/----
 P7 --:--/--.--/----
 P8 --:--/--.--/----

[▲▼]→ OK
[R. A. EDIT] : EXIT
```

5 LOCATE EDIT-IN POINT

Press **PLAY** to start playback and find the point from where you want the edited scene to begin, then press **PAUSE**. Then press **IN/OUT**. The edit-in point appears on the screen.

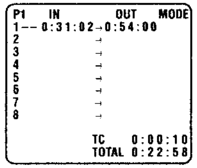


```
P1   IN          OUT   MODE
1---:--:--→
2          →
3          →
4          →
5          →
6          →
7          →
8          →

           TC    -:--:--
           TOTAL -:--:--
```



6 LOCATE EDIT-OUT POINT

Press **PLAY** to start playback. Find the point where you want the edited scene to end, then press **PAUSE**.
Then, press **IN/OUT**. The edit-out point appears on the screen.

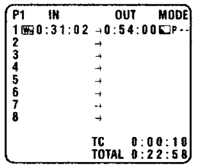


```
P1   IN          OUT   MODE
1-- 0:31:02→0:54:00
2          →
3          →
4          →
5          →
6          →
7          →
8          →

           TC    0:00:10
           TOTAL 0:22:58
```

7 USE FADE/WIPE EFFECT ON SCENE TRANSITION (IF NECESSARY)

Press **FADE/WIPE**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- You can't use a Picture Wipe/Dissolve at the end of the last scene.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

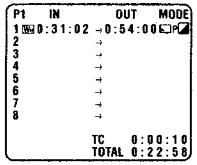


```
P1   IN          OUT   MODE
1 W 0:31:02 →0:54:00 P--
2          →
3          →
4          →
5          →
6          →
7          →
8          →

           TC    0:00:10
           TOTAL 0:22:58
```

8 USE PLAYBACK EFFECT (IF NECESSARY)

Press **EFFECT**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You can use Classic Film, Monotone, Sepia, Strobe or Video Echo effects. (☞ pg. 28)
- You can also select --:-- so that the date and time are displayed.

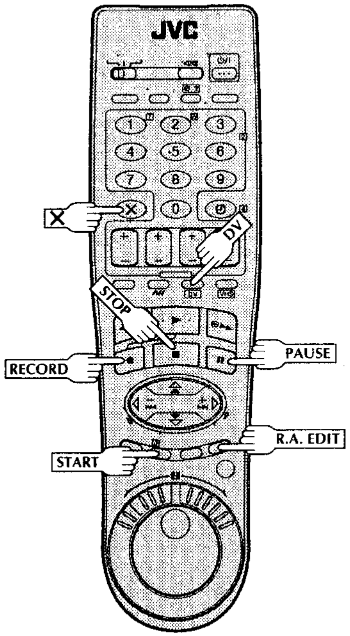


```
P1   IN          OUT   MODE
1 W 0:31:02 →0:54:00 P
2          →
3          →
4          →
5          →
6          →
7          →
8          →

           TC    0:00:10
           TOTAL 0:22:58
```

9 REGISTER ADDITIONAL SCENES

Repeat steps 5 – **8**.

- To change previously registered points, press X. The registered points disappear, one at a time, from the most recently registered point.
- If you're not using Fade/Wipe or Playback Effects, repeat steps **5** and **6** only.



10

PREPARE SOURCE TAPE

Rewind the tape in the DV deck to the beginning of the scene you want to edit.

11

ENGAGE VHS DECK TO RECORD-PAUSE MODE

Press **VHS**, then press and hold **PAUSE** and press **RECORD** so that the VHS deck enters the Record-Pause mode.

12

START EDITING

Press **START**.

- When dubbing is complete, the DV deck enters the Pause mode, and the VHS deck enters its Record-Pause mode.

13

STOP EDITING

Press **STOP**. The DV deck stops playback.
Press **VHS**, then press **STOP**. The VHS deck stops recording.

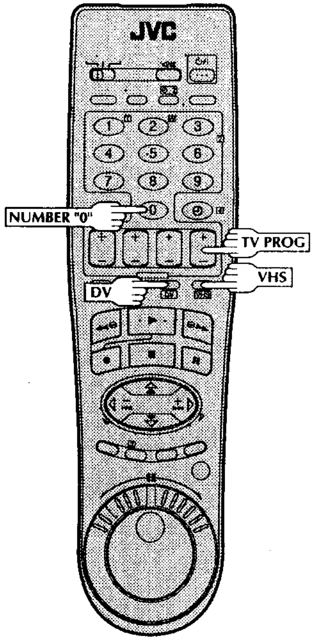
NOTES:

- *When Random Assemble Editing doesn't work, press → beside the* ***DUB*** *button, then perform Random Assemble Editing again.*
- *To cancel the registered scene, press X. Each time X is pressed, the latest regisered scene is erased.*
- *When the source tape has more than 2 identical time codes (☞ pg. 14), the recorder may not find the edit-in point you chose and a malfunction may occur.*
- *When choosing a scene, set edit-in and edit-out points so that there's a relatively large difference between them.*
- *If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.*
- *If there are blank portions before or after the edit-in and edit-out points, a blue-backed screen may be included in the edited version.*
- *Since time codes register time only as accurately as seconds, the time code total time may not match the total programme time exactly.*
- *To quit Random Assemble Editing while it is still in progress, press* ***R.A.EDIT*** *again to return to the R.A.EDIT screen. Press* ***R.A.EDIT*** *once more to return to the normal screen.*
- *To use Random Assemble Editing consecutively for two or more programmes, press* ***START*** *for each programme.*
  When dubbing from another Mini DV cassette, swap the Mini DV cassettes first, and then press ***START****.*
- *If you use the Sepia or Monotone Playback Effect, you can't use the Dissolve or Black & White Fader.*
- *The Classic Film or Strobe Playback Effect does not work, if you use the Picture Wipe or Dissolve.*
- *The Video Echo Playback Effect does not work, if you use the Fader, Picture Wipe or Dissolve.*
- *You can't use some of the Fade/Wipe Effects at the beginning or the end of the scene.*

FADER AND WIPE MENU

MENU	EFFECT
WH **FADER — WHITE**	Fade in or out with a white screen.
BK **FADER — BLACK**	Fade in or out with a black screen.
⊠ **FADER — MOSAIC**	Fade in or out with a full-screen mosaic effect.
B.W **FADER — B.W**	Fade in to a color screen from a black and white screen, or fade out from color to black and white.
◣ **WIPE — CORNER**	Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.
■ **WIPE — WINDOW**	The scene starts in the centre of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the centre.
◂ **WIPE — SLIDE**	Wipe in from right to left, or wipe out from left to right.
◂▸ **WIPE — DOOR**	Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.
▴ **WIPE — SCROLL**	The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.
▴▾ **WIPE — SHUTTER**	Wipe in towards the centre of a black screen from the top and bottom, or wipe out from the centre towards the top and bottom, leaving a black screen.
⧉ **P DISSOLVE**	The new scene gradually appears as the old one gradually disappears.
◣ **P WIPE — CORNER**	The new scene wipes in over the previous one from the upper right corner to the lower left corner.
■ **P WIPE — WINDOW**	The next scene gradually wipes in from the center of the screen toward the corners, covering the previous scene.
◂ **P WIPE — SLIDE**	The next scene gradually wipes in over the previous one from right to left.
◂▸ **P WIPE — DOOR**	The previous scene wipes out from the centre to the right and left, like a door being pushed open to reveal the next scene.
▴ **P WIPE — SCROLL**	The new scene wipes in over the last one from the bottom of the screen to the top.
▴▾ **P WIPE — SHUTTER**	The new scene wipes in over the previous one from the centre towards the top and bottom of the screen.

Edit From A Camcorder


JVC
NUMBER "0"
TV PROG
DV
VHS

NOTES:

- *All necessary cables can be obtained from your dealer.*
- *You can also use another video recorder as the player instead of a camcorder.*
- *When you select EDIT to dub tapes in step **4**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *You cannot use the VHS deck to record video through the DV IN/OUT connector.*
- *When you are editing through the DV IN/OUT connector, the recorder will stop if the player begins playing a blank portion of tape or the signal is interrupted.*

You can use a camcorder as the source player and your video recorder as the recorder.
You can perform digital dubbing if you connect a device such as a camcorder which has a DV output/input connector.
Because the signals are digital, there is no loss of video or audio quality as a result of editing.

1 MAKE CONNECTIONS

A *If the camcorder has no S-VIDEO output connector...*
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/VIDEO input connectors.

B *If the camcorder has an S-VIDEO output connector...*
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

C *If the camcorder has a DV OUT/IN connector...*
... connect the camcorder's DV OUT/IN connector to the recorder's DV IN/OUT connector.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SELECT RECORDING DECK

Press **VHS** or **DV**.

3 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "L-3".

- When using the VHS deck as the recording deck, set "L-3 AV" to "VIDEO" for the AUDIO/VIDEO input connectors, or "S-VIDEO" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used (☞ pg. 41).

4 SET EDIT MODE (VHS DECK ONLY)

See "Picture Control" on page 33.

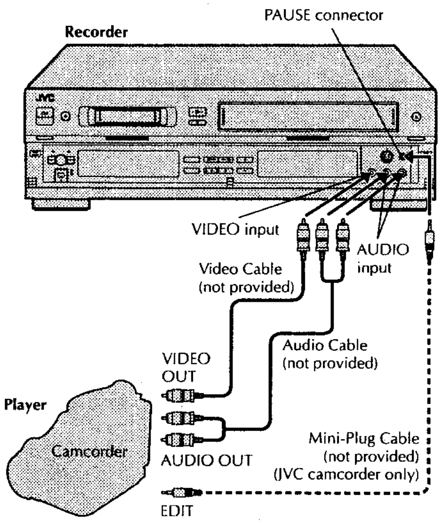
5 START CAMCORDER

Engage its Play mode.

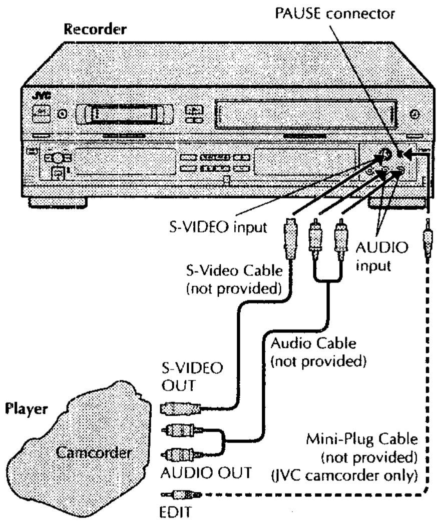
6 START RECORDER

Engage its Record mode.

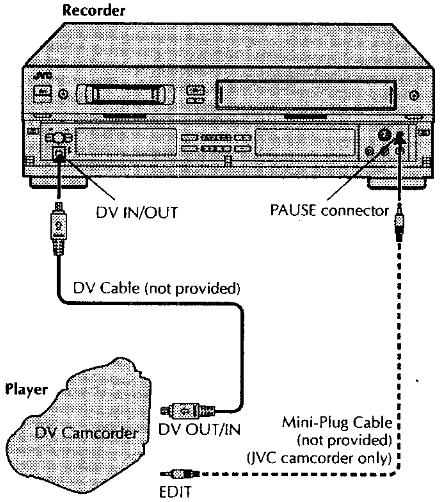
A If the camcorder has no S-VIDEO output connector...


PAUSE connector
Recorder
VIDEO input
AUDIO input
Video Cable (not provided)
Audio Cable (not provided)
VIDEO OUT
Player
Camcorder
AUDIO OUT
Mini-Plug Cable (not provided) (JVC camcorder only)
EDIT

B If the camcorder has an S-VIDEO output connector...


PAUSE connector
Recorder
S-VIDEO input
AUDIO input
S-Video Cable (not provided)
Audio Cable (not provided)
S-VIDEO OUT
Player
Camcorder
AUDIO OUT
Mini-Plug Cable (not provided) (JVC camcorder only)
EDIT

C If the camcorder has a DV OUT/IN connector...


Recorder
DV IN/OUT
PAUSE connector
DV Cable (not provided)
Player
DV Camcorder
DV OUT/IN
Mini-Plug Cable (not provided) (JVC camcorder only)
EDIT

NOTE:

*The signals through the DV IN/OUT connector cannot be recorded on the VHS deck, even though → beside the **DUB** button is pressed.*

L-3 AV Setting

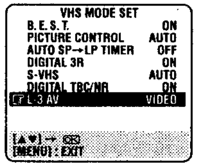
Set "L-3 AV" to the appropriate mode depending on the connector (VIDEO or S-VIDEO input connector) being used on the front panel.

1 Press **MENU** to access the Main Menu screen.

2 Press △▽ to move the highlight bar (pointer) to "VHS MODE SET", then press **OK** or ▷.

3 Press △▽ to move the highlight bar (pointer) to "L-3 AV".

4 Press **OK** or ▷ to select "VIDEO" or "S-VIDEO".



VHS MODE SET
B.E.S.T. ON
PICTURE CONTROL AUTO
AUTO SP→LP TIMER OFF
DIGITAL 3R ON
S-VHS AUTO
DIGITAL TBC/NR ON
☞ L-3 AV VIDEO

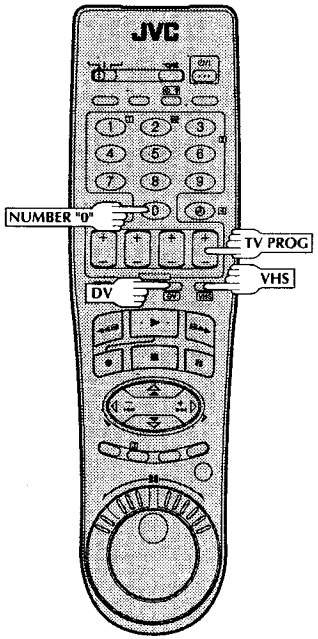
[▲▼] → OK
[MENU] : EXIT

a–VIDEO : If a connected device's output is compatible only with regular video signals, set "L-3 AV" to "VIDEO".

b–S-VIDEO : If a connected device's output is compatible with Y/C signals, set "L-3 AV" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.

5 Press **MENU** to return to normal screen.

Edit To Or From Another Video Recorder


JVC
NUMBER "0"
TV PROG
VHS
DV

You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 43.

A *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 IN/OUT connector to the recording deck.

B *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

C *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 IN/OUT connector to another recorder.

With C connection ...

- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (☞ pg. 48).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (☞ pg. 6).

2 SELECT DECK

Press **VHS** or **DV**.

- When using your recorder as the source player, set "S-VHS/AUDIO OUT" to "VHS" or "DV", depending on the deck being selected (☞ pg. 48).

3 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **TV PROG** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, set "AV2 SELECT" to the appropriate mode. (☞ pg. 48)

4 SET EDIT MODE (VHS DECK ONLY)

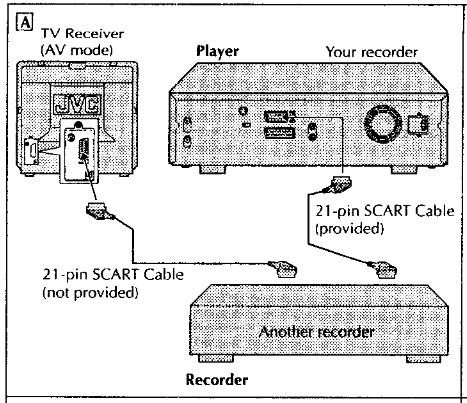
See "Picture Control" on page 33.

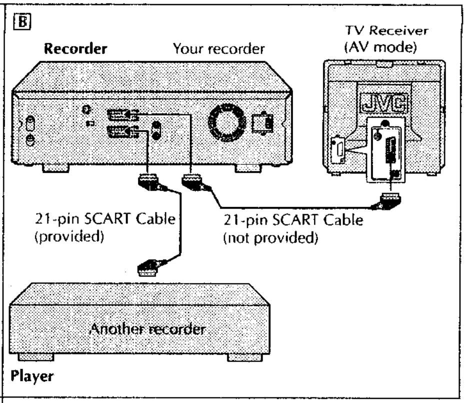
5 START SOURCE PLAYER

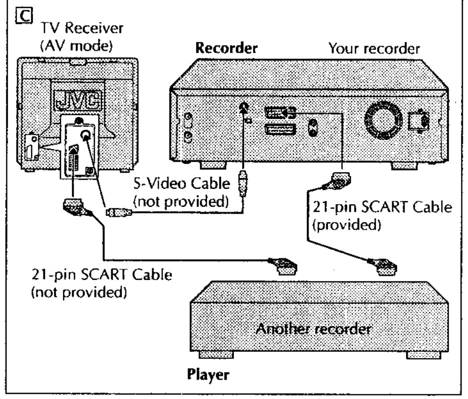
Engage its Play mode.

6 START RECORDING DECK

Engage its Record mode.


A
TV Receiver
(AV mode)
Player
Your recorder
JVC
21-pin SCART Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Recorder

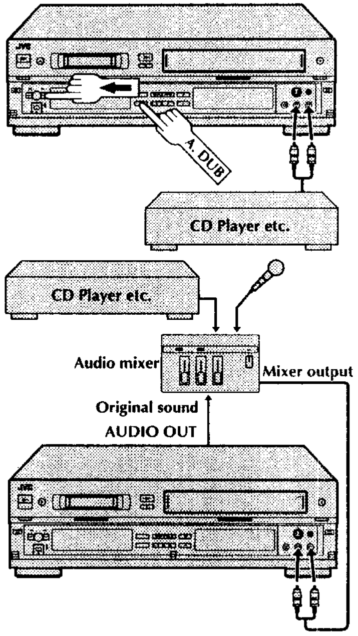

B
Recorder
Your recorder
TV Receiver
(AV mode)
JVC
21-pin SCART Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Player

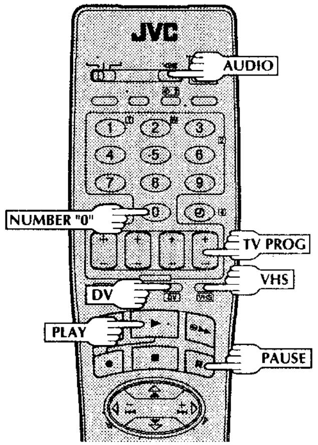

C
TV Receiver
(AV mode)
Recorder
Your recorder
JVC
S-Video Cable
(not provided)
21-pin SCART Cable
(provided)
21-pin SCART Cable
(not provided)
Another recorder
Player

NOTES:

- *All necessary cables can be obtained from your dealer.*
- *For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.*
- *When you select EDIT to dub tapes in step **4**, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.*
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 52).*
- *If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO IN/S OUT and AUDIO IN/OUT connectors.*
  When Using Your Video Recorder As The Source Player ...
  ... connect its rear panel S OUT and AUDIO OUT connectors to the recording deck's S-Video and Audio input connectors.
  When Using Your Video Recorder As The Recording Deck ...
  ... connect its front panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors. Then, set the recorder's input mode to "L-3" and set "L-3 AV" to "S-VIDEO" (☞ pg. 41).

Audio Dubbing



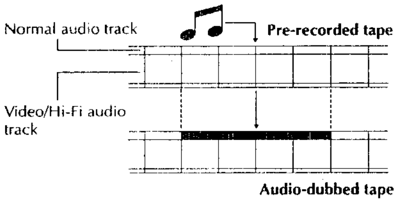


NOTE:

To use the DV deck as the recording deck, press ← and then ***DV*** *after selecting "L-3" in step* ***3****.*

VHS Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.



DV Audio Dubbing

This function lets you record new audio, without erasing the original audio, on a DV tape that was recorded with "SOUND MODE" set to "32kHz" (☞ pg. 31). You can then play back audio that you recorded by connecting other audio or video equipment to this recorder.

You cannot perform audio dubbing on a tape that was recorded with "SOUND MODE" set to "48kHz", on a tape that was recorded at the "LP" speed, or on a blank tape.

1

MAKE CONNECTIONS

Connect an audio component to the AUDIO L + R connectors on the recorder's front panel.

- When connecting monaural equipment, use only the recorder's AUDIO L connector.

2

SELECT RECORDING DECK

Press **VHS**.

3

SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** so that "L-3" appears in place of a preset number.

4

LOCATE START POINT

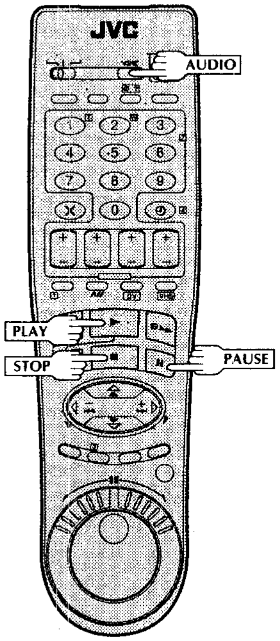
Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.

5

ENGAGE AUDIO DUBBING

Press **A. DUB**.

- It is possible to take the original sound recorded on the tape in your recorder and mix it with other sounds from a microphone, CD player etc. To perform this audio dubbing with audio mixing, connect as in the diagram on the left.
- Your recorder enters the Audio Dubbing Pause mode. ("○" blinks, "▷" and "▥" light up on the front display panel.)
- To perform audio dubbing with audio mixing, press **AUDIO** on the remote control to select "HIFI L ▷◁ R" or "L ▷◁ R" at this point. When using the DV deck as the recording deck, also make sure that "32kHz MODE" is set to "SOUND1" (☞ pg. 31).
  * Audio dubbing with audio mixing is not possible if you're using a monaural audio component, or if you don't have an audio mixer.



6

START DUBBING

Engage the audio component's Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

- "○" blinks and "▷" is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

7

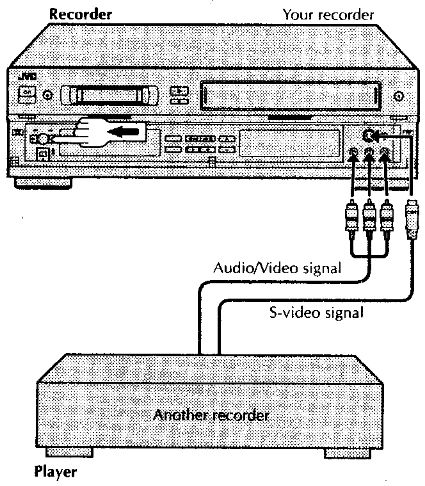
END AUDIO DUBBING

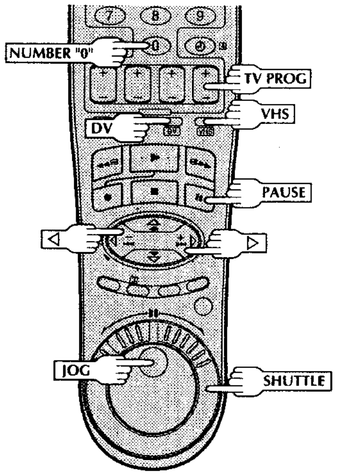
Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

NOTES:

- *When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the mixed sound (Hi-Fi + Normal soundtracks), press* ***AUDIO*** *on the remote control to select "HIFI NORM" (VHS deck only ☞ pg. 30).*
- *Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode (VHS deck only). Check the counter reading before dubbing.*
- *Audio dubbing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step* ***3****.*
- *Audio dubbing cannot be performed on a VHS/S-VHS cassette that has had its record safety tab removed, or on a Mini DV cassette that has had its erase protection switch set to "SAVE".*
- *When playing back an audio-dubbed tape on the VHS deck, press* ***AUDIO*** *on the remote control to select the soundtrack you wish to hear (☞ pg. 30). When playing back an audio-dubbed Mini DV tape on the DV deck, set "32kHz MODE" to "SOUND2" (☞ pg. 31).*
- *Audio dubbing is not possible using the DV IN/OUT connector.*

Insert Editing



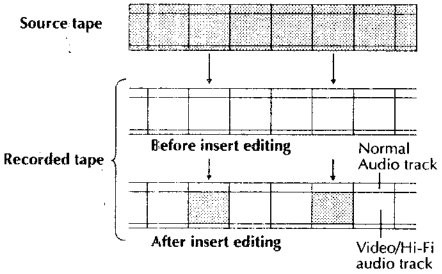


NOTES:

- *Insert Editing is not possible with a Mini DV tape recorded in LP mode.*
- *To use the DV deck as the recording deck, press ← and then **DV** after selecting "L-3" in step **3**.*

VHS Insert Editing

Insert Editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously. Use your video recorder as the recorder.



DV Insert Editing (SP Mode Only)

The picture is replaced with new one, while the audio soundtrack remains unchanged.
Use your video recorder as the recorder.

1 MAKE CONNECTIONS

Connect the player's VIDEO OUT or S-VIDEO OUT and AUDIO OUT connectors to your recorder's VIDEO or S-VIDEO and AUDIO input connectors on the front panel.

2 SELECT RECORDING DECK

Press **VHS**.

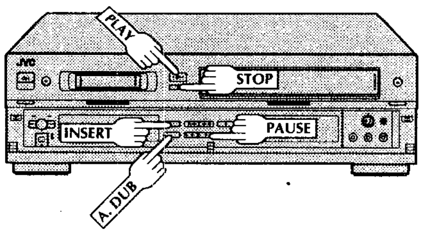
3 SET RECORDER'S INPUT MODE

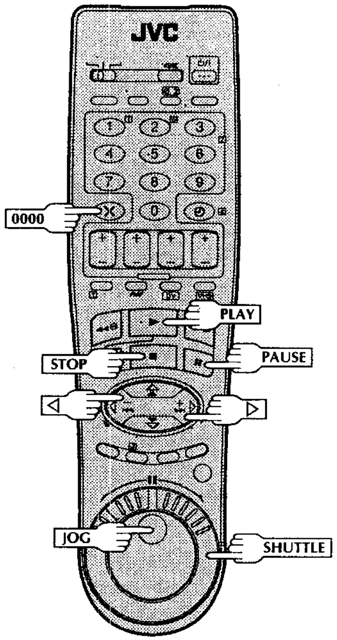
Press **NUMBER** key "0" and/or **TV PROG** to select "L-3".

- When using the VHS deck as the recording deck, set "L-3 AV" to "VIDEO" for the AUDIO/VIDEO input connectors, or "S-VIDEO" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used (☞ pg. 41).

4 LOCATE END POINT (VHS DECK ONLY)

Load the recording cassette into your recorder, and play it back to determine the edit-out point (the end of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial, or pressing ◁▷ and **PAUSE**.





NOTES:

- *All necessary cables can be obtained from your dealer.*
- *Insert Editing cannot be performed on a VHS/S-VHS cassette that has had its record safety tab removed, or on a Mini DV cassette that has had its erase protection switch set to "SAVE".*
- *When Insert Editing is performed on a tape that has been recorded on another video recorder, the inserted portion may appear distorted.*
- *In Insert Editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point. (VHS deck only)*
- *A small portion of the recording which precedes an insert edit may be erased.*
- *Insert Editing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step **3**.*
- *Insert Editing is not possible using the DV IN/OUT connector.*

5 RESET THE COUNTER (VHS DECK ONLY)

Press **0000** to change the counter display to "0:00:00".

6 LOCATE START POINT

Determine the edit-in point (the beginning of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing ◁▷ and **PAUSE**.

- Be sure to engage the Still mode at the edit-in point.

7 ENGAGE INSERT EDITING

Press **INSERT**.

- Your recorder enters the Insert-Pause mode. ("○", "▷" and "▦" light up on the front display panel.)
- The TV screen changes from the still picture to the input source you are going to record.

8 START EDITING

Load the source cassette and play back the segment that is to be inserted. When you reach the start of the section of the source tape that you wish to insert, press **PLAY** to start the tape in your recorder; Insert Editing begins at this point.

- "○" and "▷" are displayed on the front display panel.

9 END INSERT EDITING

VHS deck
At counter "0:00:00", Insert Editing will stop automatically while the tape continues running in the Play mode. If you wish to stop Insert Editing before the specified edit-out point, press **0000**.

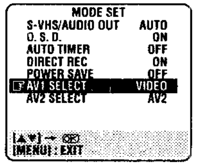
DV deck
Press **STOP** to stop the tape in the DV deck.

FOR AV INSERT EDITING (VHS DECK ONLY)

If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...
... In step 7 above, after you press **INSERT**, press **A. DUB** also. ("○" and "▷" blink and "▦" lights up on the front display panel.)

AV1 SELECT Setting

Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.



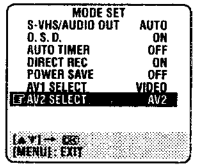
```
         MODE SET
 S-VHS/AUDIO OUT      AUTO
 O. S. D.               ON
 AUTO TIMER            OFF
 DIRECT REC             ON
 POWER SAVE            OFF
☞AV1 SELECT          VIDEO
 AV2 SELECT            AV2

[▲▼]→ OK
[MENU]: EXIT
```

1 Press **MENU** to access the Main Menu screen.
2 Press ΔV to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press ΔV to move the highlight bar (pointer) to "AV1 SELECT".
4 Press **OK** or ▷ to select "VIDEO" or "S-VIDEO".
  a–VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
  b–S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
5 Press **MENU** to return to normal screen.

- The "AV1 SELECT" setting is for signal input to the AV1 IN/OUT connector.
- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".

AV2 SELECT Setting

Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.



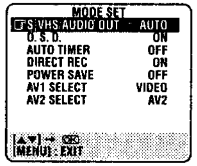
```
         MODE SET
 S-VHS/AUDIO OUT      AUTO
 O. S. D.               ON
 AUTO TIMER            OFF
 DIRECT REC             ON
 POWER SAVE            OFF
 AV1 SELECT          VIDEO
☞AV2 SELECT            AV2

[▲▼]→ OK
[MENU]: EXIT
```

1 Press **MENU** to access the Main Menu screen.
2 Press ΔV to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press ΔV to move the highlight bar (pointer) to "AV2 SELECT".
4 Press **OK** or ▷ to select "AV2", "DECODER" or "SAT".
  a–AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite receiver connected to the AV2 IN/DECODER connector.
  b–DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
  c–SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (☞ pg. 57)
5 Press **MENU** to return to normal screen.

- If you have a satellite receiver or a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to appropriate mode after editing.
- If you're not connecting a satellite receiver or a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a satellite receiver or a decoder, be sure to set "AV2 SELECT" back to appropriate mode.
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".

S-VHS/AUDIO OUT Setting

Set "S-VHS/AUDIO OUT" to the appropriate mode depending on the selection of the playing deck (VHS or DV) for editing.

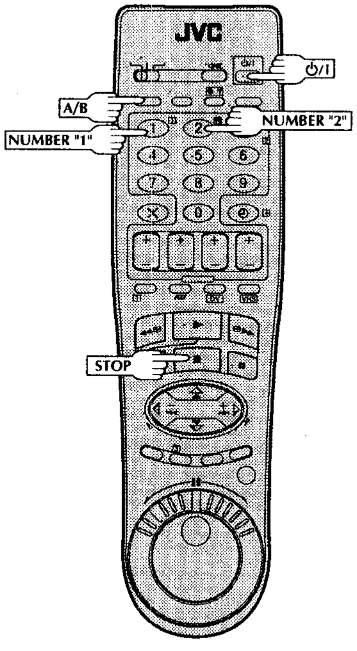


```
         MODE SET
☞S-VHS/AUDIO OUT      AUTO
 O. S. D.               ON
 AUTO TIMER            OFF
 DIRECT REC             ON
 POWER SAVE            OFF
 AV1 SELECT          VIDEO
 AV2 SELECT            AV2

[▲▼]→ OK
[MENU]: EXIT
```

1 Press **MENU** to access the Main Menu screen.
2 Press ΔV to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press ΔV to move the highlight bar (pointer) to "S-VHS/AUDIO OUT".
4 Press **OK** or ▷ to select "AUTO", "VHS" or "DV".
  a–AUTO : The recorder outputs the signals from the deck being used automatically. The on-screen display is also output.
  b–VHS : The recorder outputs only the signals from the VHS deck. The on-screen display is not output.
  c–DV : The recorder outputs only the signals from the DV deck. The on-screen display is not output.
5 Press **MENU** to return to normal screen.

- If you select "VHS" or "DV", the Main Menu screen will not appear even when **MENU** is pressed. To change the menu settings, connect your TV to the recorder's AV1 IN/OUT connector, not to the S OUT/AUDIO OUT connectors.

Remote Control Functions



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code control signals and another set to respond to B code control signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1 REMOVE POWER SUPPLY

Unplug the mains power cord from the mains outlet.

2 SET REMOTE CONTROL CODE

While holding down **A/B** on the remote control, press the **NUMBER** key "2" and then press **STOP**.

3 RE-SUPPLY POWER

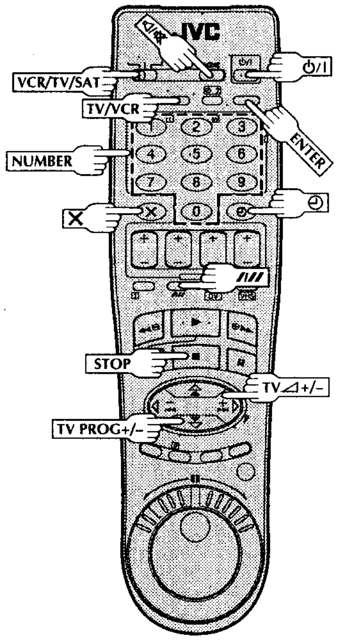
Plug the mains power cord back into the mains outlet.

4 TURN THE RECORDER ON

Press ⏻/I on the remote control. The recorder will now only respond to B code signals.

NOTE:

*To set the recorder back to respond to A code signals, repeat the same procedure as shown above except pressing **NUMBER** key "1" instead of "2" in step **2**.*



TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start . . .
- Turn on the TV using its remote control.
- Set the remote control's **VCR/TV/SAT** switch to TV.

1 SET TV BRAND CODE

Refer to the chart below. While holding down ⏻/I on the recorder's remote control, enter your TV's brand code using the **NUMBER** keys, then press **STOP**. Check if the TV's power goes off as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's battteries.
- JVC and SAMSUNG have more than one code. If the TV does not function with one code, try entering another.

2 OPERATE TV

Press the corresponding button: ⏻/I, **TV PROG +/–**, **TV/VCR**, **TV ⊿ +/–** (Volume), **◁/⊠** (Muting), **NUMBER** keys.

- For some brands of TV, you must press **ENTER** after having pressed the **NUMBER** keys.
- To return the remote to video recorder control, set its **VCR/TV/SAT** switch to VCR.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV, or in some instances, may have limited function capability.

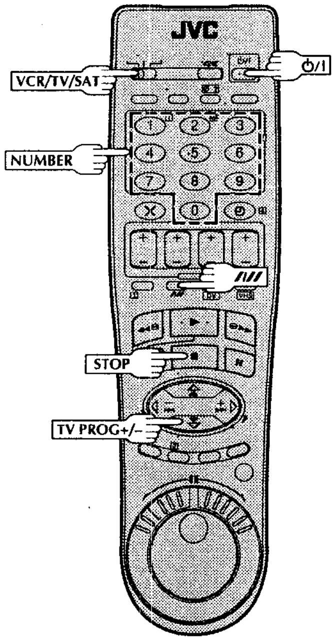
TV BRAND NAME	CODE
JVC	01, 23, 24, 25
BLAUPUNKT	19
BRANDT	26
FERGUSON	27
FINLUX	30
FUNAI	32
LG/GOLDSTAR	18
GRAETZ	28
GRUNDIG	19
HITACHI	10
ITT	28
LUXOR	28
MITSUBISHI	03
MIVAR	29
NEC	20
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14

Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **/\/\/\/** button, X button or ⊕ button to select the TV's channel.
- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **/\/\/\/** button corresponds to the 1-digit/2-digit entry switching button (often labelled – /– –) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the X button corresponds to the 10 + button, and the ⊕ button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.



Satellite Receiver Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite receiver set. In addition to JVC satellite receivers, other manufacturer's satellite receivers can also be controlled.

Before you start . . .
- Turn on the satellite receiver using its remote control.
- Set the remote control's **VCR/TV/SAT** switch to SAT.

1 SET SATELLITE RECEIVER BRAND CODE

Refer to the chart below. While holding down ⏻/I on the recorder's remote control, enter your satellite receiver's brand code using the **NUMBER** keys, then press **STOP**. Check if the satellite receiver's power goes off as it should. If it does, try other operations (☞ step **2**).

- Once you have set the remote control to operate the satellite receiver, you don't have to repeat this step until you replace your remote control's battteries.
- Some satellite receiver brands have more than one code. If the satellite receiver does not function with one code, try entering another.

2 OPERATE SATELLITE RECEIVER

Press the corresponding button: ⏻/I, **TV PROG +/–**, **NUMBER** keys.

- For VIDEOWAY or some other brands of satellite receiver, you must press **/\/\/\/** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite receivers.
- To return the remote to video recorder control, set its **VCR/TV/SAT** switch to VCR.

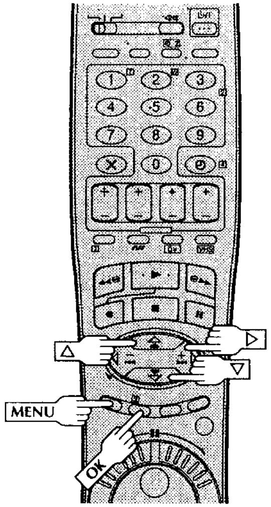
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite receivers, as well as many other models, it may not work with your satellite receiver, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITT	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RFT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64

Other Functions

Turn on the TV and select the AV mode.



NOTES:

- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.*
- *During playback, the operation mode indicators may sometimes be disturbed depending on the type of tape being used.*

On-Screen Display

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF.

1 ACCESS MAIN MENU SCREEN

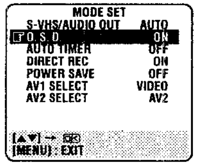
Press **MENU**.

2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

3 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step **4**. If you don't want the displays to appear, press △▽ to move the highlight bar (pointer) to "O.S.D." and press **OK** or ▷ to set "O.S.D." to "OFF".

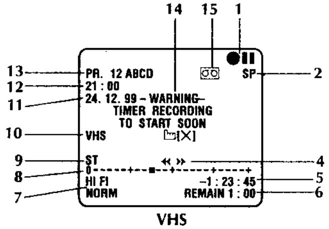


MODE SET
S-VHS/AUDIO OUT AUTO
O. S. D. ON
AUTO TIMER OFF
DIRECT REC ON
POWER SAVE OFF
AV1 SELECT VIDEO
AV2 SELECT AV2
[▲▼] → OK
[MENU] : EXIT

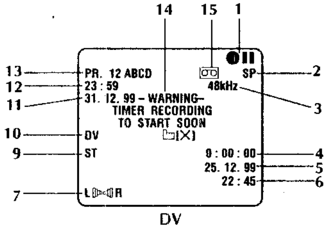
4 RETURN TO NORMAL

Press **MENU**.

The superimposed indication on the TV screen tells you what the recorder is doing.

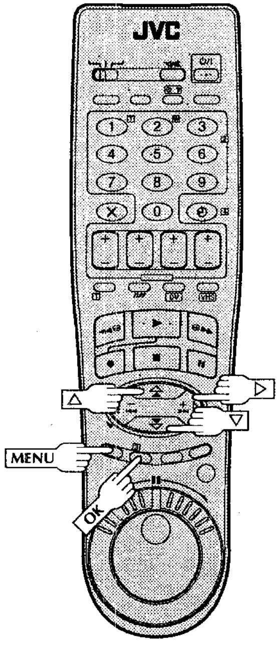


VHS



DV

1– Operation mode indicators
2– Tape speed SP/LP/EP (EP is for NTSC playback only)
3– Sound mode indicator (DV) (☞ pg. 31)
4– Tape direction (VHS)
Time code (DV) (☞ pg. 14)
5– Counter display (VHS)
Day/month/year at recording (DV)
6– Tape remaining time indicator (VHS) (☞ pg. 17)
Time at recording (DV)
7– Audio mode display (☞ pg. 30, 31)
8– Tape position indicator (VHS) (☞ pg. 14)
9– Type of Broadcast (☞ pg. 32)
10– VHS/DV indicator (☞ pg. 12)
11– Current day/month/year
12– Clock display
13– Channel position number and station name/Aux. indicator (L-1, L-2 or L-3)
14– Timer warning display (☞ pg. 19, 21)
15– Cassette loaded mark



Power Save Mode

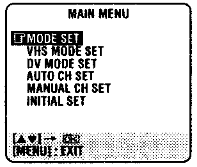
You can reduce the power consumption while the recorder is turned off.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS MODE SET SCREEN

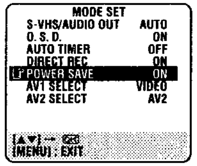
Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



MAIN MENU
MODE SET
VHS MODE SET
DV MODE SET
AUTO CH SET
MANUAL CH SET
INITIAL SET
[▲▼] → OK
[MENU] : EXIT

3 SELECT POWER SAVE MODE

Press △▽ to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or ▷ to set to "ON".



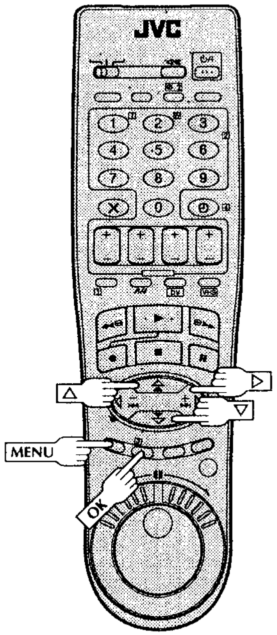
MODE SET
S-VHS/AUDIO OUT AUTO
O. S. D. ON
AUTO TIMER OFF
DIRECT REC ON
POWER SAVE ON
AV1 SELECT VIDEO
AV2 SELECT AV2
[▲▼] → OK
[MENU] : EXIT

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *During Power Save, the display panel will be turned off.*
- *The Just Clock function (☞ pg. 69) does not work while the Power Save mode is engaged.*
- *While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.*
- *Power Save does not work when ...*
  ... the recorder is in the Timer mode.
  ... the recorder's power is turned off after timer-recording (or Instant Timer Recording).
  ... "AV2 SELECT" is set to "DECODER" or "SAT" (☞ pg. 48).

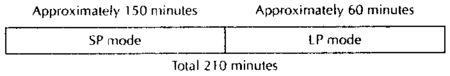


Auto SP→LP Timer (VHS Deck Only)

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example . . .

Recording a programme of 210 minutes in length onto a 180-minute tape



Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

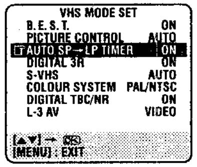
ACCESS VHS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "VHS MODE SET", then press **OK** or ▷.

3

SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or ▷ to select "ON".



```
        VHS MODE SET
  B.E.S.T.                  ON
  PICTURE CONTROL         AUTO
☞ AUTO SP→LP TIMER          ON
  DIGITAL 3R                ON
  S-VHS                   AUTO
  COLOUR SYSTEM       PAL/NTSC
  DIGITAL TBC/NR            ON
  L-3 AV                 VIDEO

[▲▼] → OK
[MENU] : EXIT
```

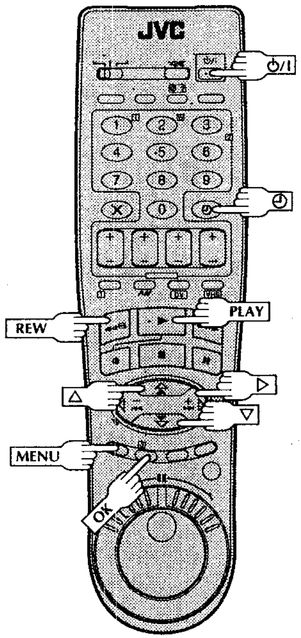
4

RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.*
- *If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a short non-recorded section at the end of the tape.*
- *There may be some picture noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.*
- *If you perform timer recording with both PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.*



Auto Timer

When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1

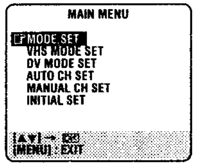
ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

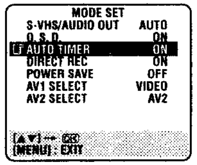


```
        MAIN MENU

☞ MODE SET
  VHS MODE SET
  DV MODE SET
  AUTO CH SET
  MANUAL CH SET
  INITIAL SET

[▲▼] → OK
[MENU] : EXIT
```

3

SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO TIMER", then press **OK** or ▷ to select either "ON" or "OFF".



```
          MODE SET
  S-VHS/AUDIO OUT      AUTO
  O.S.D.                 ON
☞ AUTO TIMER             ON
  DIRECT REC             ON
  POWER SAVE            OFF
  AV1 SELECT          VIDEO
  AV2 SELECT            AV2

[▲▼] → OK
[MENU] : EXIT
```

4

RETURN TO NORMAL SCREEN

Press **MENU**.

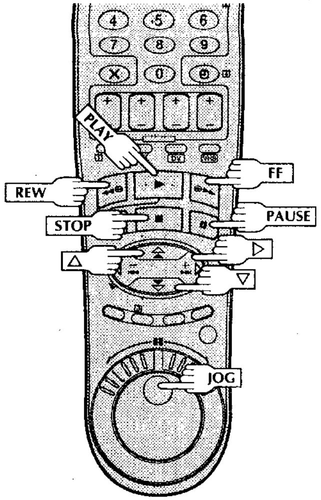
NOTE:

*For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press ⊕ (**TIMER**).*

Next Function Memory

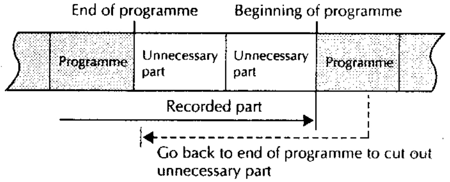
The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

a– For Automatic Start Of Playback After Tape Rewind . . .
. . . press **REW**, then press **PLAY** within 2 seconds.
b– For Automatic Power Off After Tape Rewind . . .
. . . press **REW**, then press ⏻/I within 2 seconds.
c– For Automatic Cassette Ejection After Tape Rewind . . .
. . . press **REW**, then press **EJECT** within 2 seconds.


PLAY
REW
STOP
FF
PAUSE
JOG

Retake (VHS Deck Only)

You can cut out unnecessary parts of a TV programme while you're recording it.


End of programme
Beginning of programme
Programme
Unnecessary part
Unnecessary part
Programme
Recorded part
Go back to end of programme to cut out unnecessary part

1 ENGAGE RECORD-PAUSE MODE

Press **PAUSE** during recording.

2 LOCATE START POINT

After pressing **JOG/SHUTTLE** button, turn the **JOG** dial to the left or right (or hold down **REW** or **FF**) and release it when you reach the point where you want to resume recording.
* Your recorder returns to the Record-Pause mode.

3 RESUME RECORDING

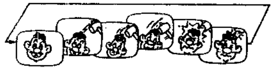
Press **PLAY** when you wish to resume recording.

NOTE:

Retake function does not work during Direct Rec (☞ pg. 11).

Repeat Playback (VHS Deck Only)

Your video recorder can automatically play back the whole tape 50 times repeatedly.



1 START PLAYBACK

Press **PLAY**.

2 ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▷) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3 STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTE:

*Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.*

NTSC Playback (VHS Deck Only)

Your video recorder is equipped with NTSC circuitry that can play back NTSC tapes.

1 LOAD A CASSETTE

Insert a cassette recorded in NTSC.

2 START PLAYBACK

Press **PLAY**.

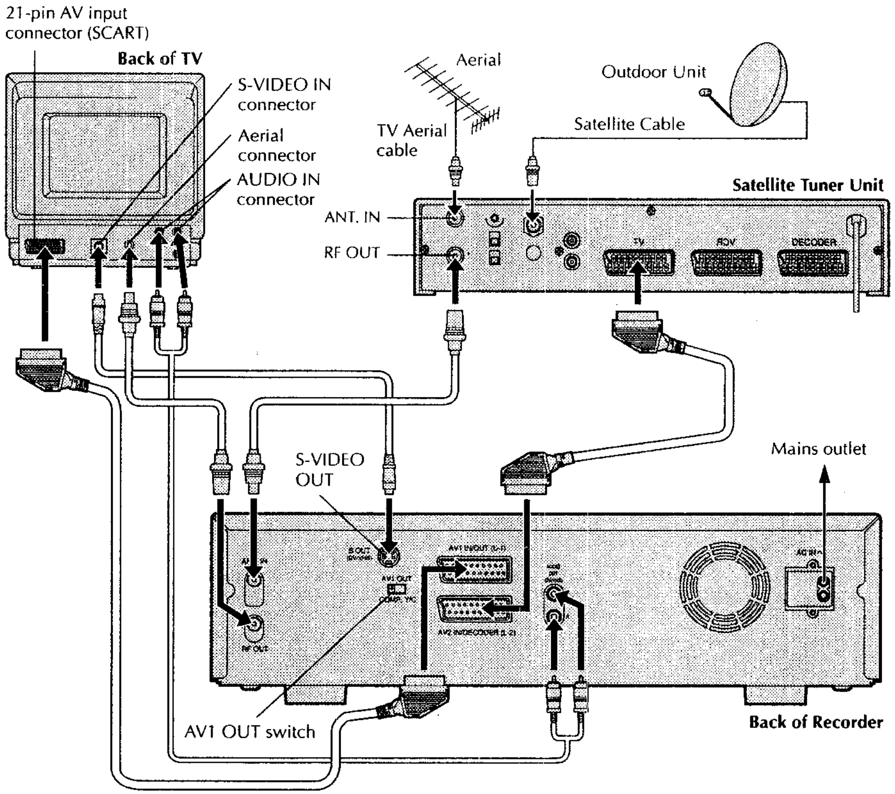
- "NTSC→PAL" appears on the screen for about 5 seconds.
- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

Connecting To A Satellite Tuner

Connect the satellite tuner to the video recorder's AV2 IN/DECODER connector, then connect the recorder's AV1 IN/OUT connector to the TV's 21-pin SCART connector.

NOTES:

- *Set "AV2 SELECT" to "AV2" or "SAT". (☞ pg. 48)*
- *To view a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-2" appears on the display panel.*
- *For details, refer to the instruction manual for the satellite tuner.*


21-pin AV input connector (SCART)
Back of TV
S-VIDEO IN connector
Aerial connector
AUDIO IN connector
Aerial
TV Aerial cable
Outdoor Unit
Satellite Cable
Satellite Tuner Unit
ANT. IN
RF OUT
TV
VCR
DECODER
S-VIDEO OUT
Mains outlet
AV1 IN/OUT (L-1)
AV2 IN/DECODER (L-2)
AV1 OUT
COMP. Y/C
RF OUT
AV1 OUT switch
Back of Recorder

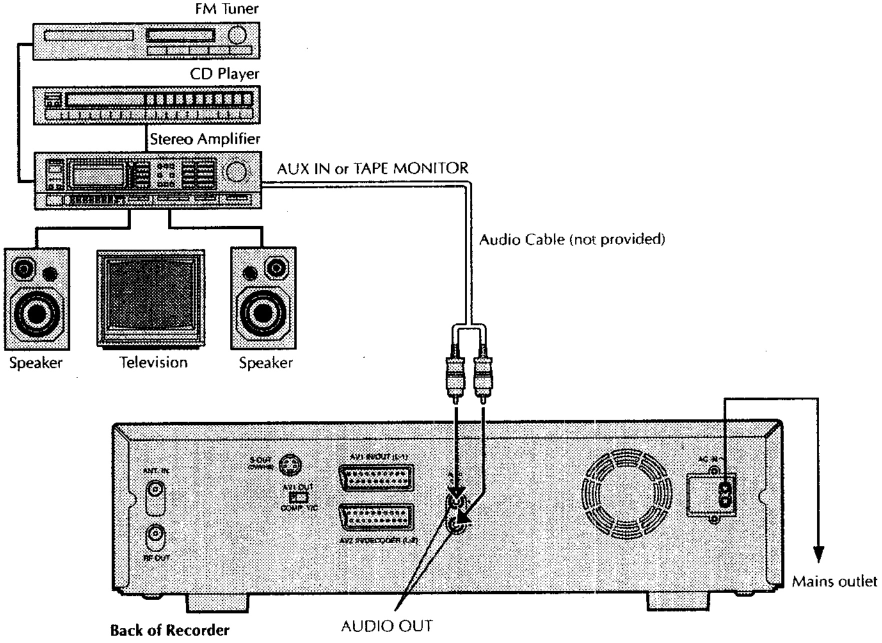
IMPORTANT

When you set "AV2 SELECT" to "SAT" (☞ pg. 48), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.

- *In this case, be sure to set the **AV1 OUT** switch on the rear panel to COMP.*

Connecting To A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.


FM Tuner
CD Player
Stereo Amplifier
AUX IN or TAPE MONITOR
Audio Cable (not provided)
Speaker
Television
Speaker
Mains outlet
Back of Recorder
AUDIO OUT

1 MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

- *When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.*
- *If you can receive NICAM TV broadcasts in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.*
- *When listening to sound through the connected stereo system, turn the TV's volume down completely.*

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Connecting To A Printer

You can make printouts of video images by connecting the GV-DT1/GV-DT3 Digital Printer (sold separately) to the DV IN/OUT connector.

1 MAKE CONNECTIONS

Connect the printer's DV IN connector to the recorder's DV IN/OUT connector.

2 SELECT DECK

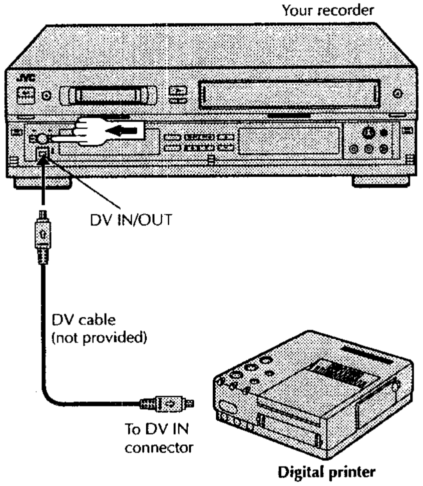
Press **DV**.

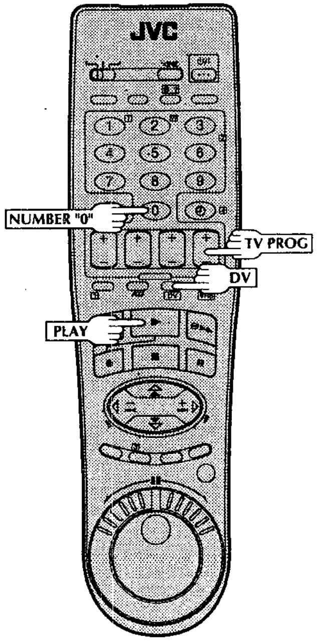
- When you use the VHS deck . . .
  Press ← beside the **DUB** button.

3 START PLAYBACK

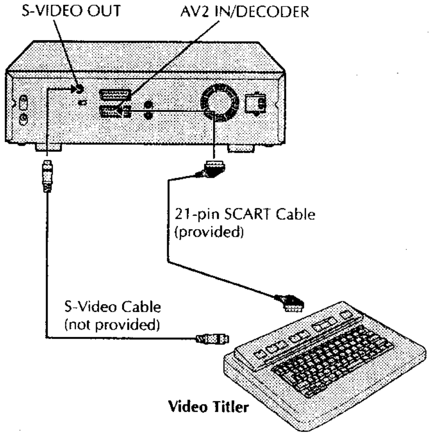
Press **PLAY**.

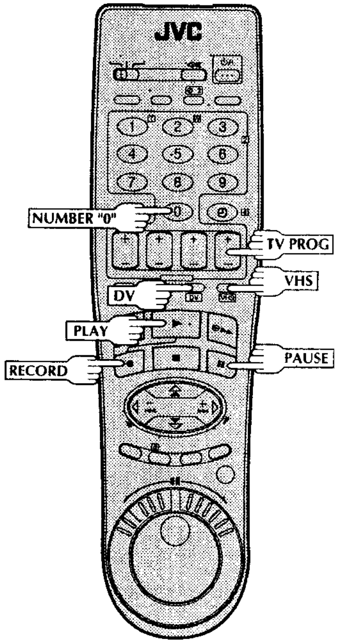
- The image being displayed on the TV screen is output to the digital printer. Any on-screen displays are not output. Playback Effects are not output, either.


Your recorder
DV IN/OUT
DV cable
(not provided)
To DV IN
connector
Digital printer


JVC
NUMBER "0"
TV PROG
DV
PLAY

Connecting To A Video Titler





When you edit from the DV deck to the VHS deck (or from the VHS deck to the DV deck), you can enter a title to a scene by connecting a video titler.

1

MAKE CONNECTIONS

Connect the recorder and the video titler as shown in the illustration on the left column.

2

PREPARE PLAYING DECK

Insert a cassette for playback and make the title you want to display.

- When using the DV deck as the source player, set "S-VHS/AUDIO OUT" to "DV" (☞ pg. 48).
  When using the VHS deck as the source player, set "S-VHS/AUDIO OUT" to "VHS" (☞ pg. 48).
- For details of making a title, refer to the instruction manual for the video titler.

3

PREPARE RECORDING DECK

Insert a cassette for recording and press **DV** or **VHS** for the recording deck.
To set recording deck's input mode, press **NUMBER** key "0" and /or **TV PROG** to select "L-2".

- Set "AV2 SELECT" to "AV2" (☞ pg. 48).

4

LOCATE START POINT

Press **DV** or **VHS** for the playing deck.
Press **PLAY** to start playback and find the biginning of the scene you want to edit, then press **PAUSE**.

5

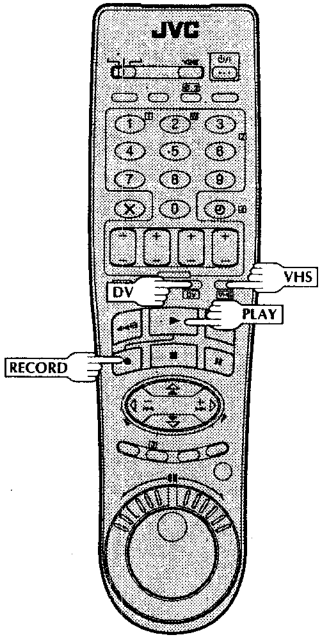
PREPARE VIDEO TITLER

Prepare the video titler so that the title can be displayed.

6

ENGAGE RECORD-PAUSE MODE

Press **DV** or **VHS** for the recording deck, then press and hold **PAUSE** and press **RECORD** so that the recording deck enters its Record-Pause mode.



7

START PLAYBACK

Press **DV** or **VHS** for the playing deck, then press **PLAY**.

8

START RECORDING

Press **DV** or **VHS** for the recording deck, then press **RECORD** at the point from where you want to start recording.

9

ENTER TITLE

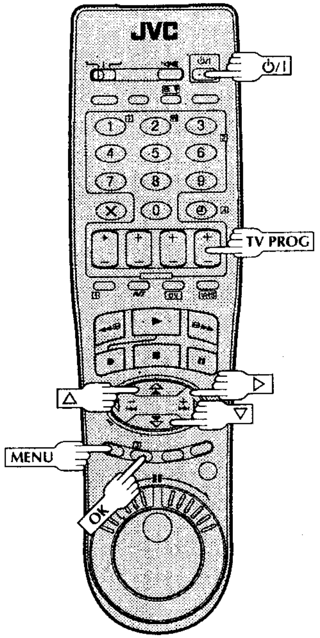
Enter a title at the point where you want the title to be displayed.

NOTES:

- *For the operation of the video titler, refer to its instruction manual.*
- *If the playing deck is left in the Pause mode, it will automatically go into Stop mode after a time for the protection of the video tape and the video head. The duration of the Pause mode is 3 minutes for the DV deck and 5 minutes for the VHS deck.*
- *If the recording deck is left in the Record-Pause mode, it will automatically go into Stop mode after a time for the protection of the video tape and the video head. The duration of the Record-Pause mode is 3 minutes for the DV deck and 5 minutes for the VHS deck.*

Tuner Set

Turn on the TV and select the AV mode.



IMPORTANT
Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function (☞ pg. 8) or Preset Download (☞ pg. 9).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorise all necessary stations in preset positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **TV PROG** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

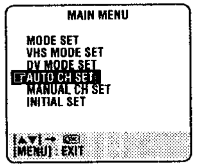
Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

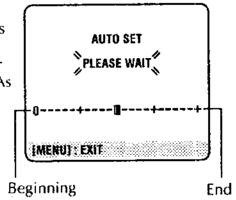
Press **MENU**.

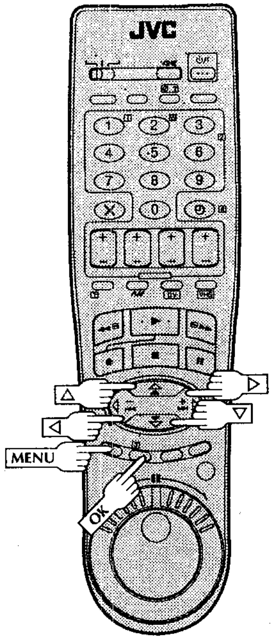
3 PERFORM AUTO CHANNEL SET

Move the highlight bar (pointer) to "AUTO CH SET" by pressing △▽, then press **OK** or ▷.



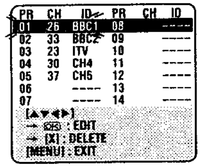
- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations. As Auto Channel Set progresses, the "▮" mark on the screen moves from left to right. Wait until the screen as shown in step **4** appears.
- Auto Channel Set usually takes about 4 – 12 minutes; the duration varies by area.





4 VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, a Confirmation screen looking like the one on the right appears. The stations your recorder located appear on a Confirmation screen — preset positions (PR), channels (CH) and station names (ID – ☞ pg. 67). The blueback screen and the programme currently being broadcast by the station which is blinking appear alternately for 8 seconds each.
To view the next page, use the △▽ ◁▷ button on the remote control.



PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	33	BBC2	09		----
03	23	ITV	10		----
04	30	CH4	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

- The Guide Program numbers will also be set automatically during Auto channel Set.

5 RETURN TO NORMAL SCREEN

Press **MENU**.

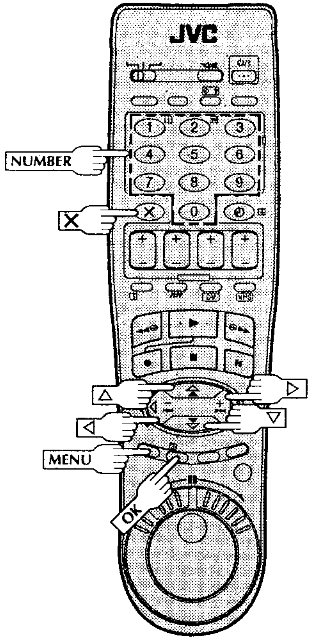
- Using the Confirmation screen, you can skip or add preset positions, enter station names and perform other operations. Refer to pages 64 – 68 for the procedures.
- Depending on reception conditions, the stations may, on occasion, not be stored in order, and the station names may not be stored correctly.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using VIDEO Plus+, the recorder will record a TV programme of a different station. When programming the timer using VIDEO Plus+, be sure to check that the preset position corresponding to the broadcasting station you wish to record has been selected (☞ pg. 18, "VIDEO Plus+ Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations which have an unacceptable picture ☞ "Delete A Channel" on page 65.

NOTES:

- *Fine tuning is performed automatically during Auto Channel Set. If you wish to perform it manually, refer to page 65.*
- *If, for any reason, you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step **4**. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.*



Storing Channels Manually

To store channels that were not stored during Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 62).

1

ACCESS MAIN MENU

Press **MENU**.

2

ACCESS CONFIRMATION SCREEN

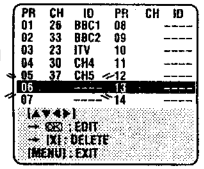
Press △▽ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or ▷. The Confirmation screen appears.

3

SELECT POSITION

Press △▽ ◁▷ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 6.



PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	33	BBC2	09		----
03	23	ITV	10		----
04	30	CH4	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

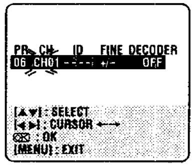
[▲▼◀▶]
→ OK : EDIT
→ [X] : DELETE
[MENU] : EXIT

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4

SELECT BAND

Press △▽ to change the band between CH (regular) and CC (cable), then press ▷.



PR	CH	ID	FINE	DECODER
06	CH01	----	+/-	OFF

[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT

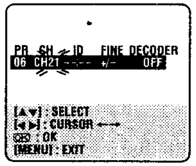
The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5

INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- To input the registered station name (ID – ☞ pg. 67), press ▷ until "- - - -" (ID setting) begins blinking, then press △▽.
- For fine tuning adjustment, press ▷ until "+/–" begins blinking, then press △▽. While tuning, "+" or "–" appears.



PR	CH	ID	FINE	DECODER
06	CH21	----	+/-	OFF

[▲▼] : SELECT
[◀▶] : CURSOR ←→
OK : OK
[MENU] : EXIT

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

- When "AV2 SELECT" is set to "AV2", the "DECODER" setting cannot be changed (☞ pg. 48).

6

ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps **3** through **6** as necessary.

7

CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Preset Position" (☞ pg. 65).
- If you wish to set station names other than the ones registered in your recorder, ☞ "Set Stations (B)" on page 66.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on page 19.
Or perform "Guide Program Number Set" (☞ pg. 70).

Delete A Channel

Perform steps **1** and **2** of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press △▽ ◁▷ until the item you want to delete begins blinking.

2

DELETE CHANNEL

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Change Station Preset Position

Perform steps **1** and **2** of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1

SELECT ITEM

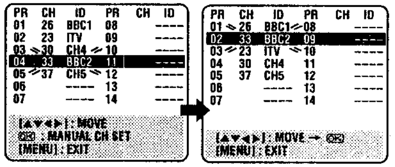
Press △▽ ◁▷ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2

SELECT NEW POSITION

Press △▽ ◁▷ to move the station to the new preset position, then press **OK**.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.



PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	23	ITV	09		----
03	30	CH4	10		----
04	33	BBC2	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

[▲▼◀▶] : MOVE
OK : MANUAL CH SET
[MENU] : EXIT

PR	CH	ID	PR	CH	ID
01	26	BBC1	08		----
02	33	BBC2	09		----
03	23	ITV	10		----
04	30	CH4	11		----
05	37	CH5	12		----
06		----	13		----
07		----	14		----

[▲▼◀▶] : MOVE → OK
[MENU] : EXIT

- Repeat steps **1** and **2** as necessary.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Fine-Tuning Channels Already Stored

Perform steps **1** and **2** of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1

SELECT CHANNEL TO FINE-TUNE

Press △▽ ◁▷ until the channel you want to tune begins blinking.

2

ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3

PERFORM TUNING

Press ▷ until "+/–" begins blinking, then press △▽ until the picture is clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **3** as necessary.

4

CLOSE CONFIRMATION SCREEN

Press **MENU**.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
- Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
- Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.

* In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
If an attempt is made at timer programming with VIDEO Plus+ in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on page 19.
Or perform "Guide Program Number Set" (☞ pg. 70).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 64 to access the Confirmation screen before continuing.

1

SELECT ITEM

Press ∆∇ ◁▷ until the item you want begins blinking.

2

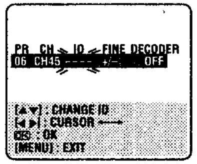
ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3

SELECT NEW STATION

Press ▷ until the station name (ID) begins blinking, then press ∆∇ until the new station's name (ID) you want to store begins blinking.
Registered station names (☞ pg. 67) appear as you press ∆∇.



```
PR  CH   ID    FINE DECODER
06  CH45 ----  +/-      OFF
```

4

SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **4** as necessary.

5

CLOSE CONFIRMATION SCREEN

Press **MENU**.

Set Stations (B)

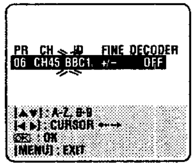
Set station names other than the ones registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 64 to access the Confirmation screen and then perform steps **1** and **2** of "Set Stations (A)" on the left before continuing.

1

SELECT STATION NAME CHARACTER

Press ▷ until the first letter of the station name begins blinking.



```
PR  CH   ID    FINE DECODER
06  CH45 BBC1. +/-      OFF
```

2

ENTER NEW CHARACTER

Press ∆∇ to cycle through the characters (A–Z, 0–9, –, ∗, +, ␣ (space)) and stop when the desired character is indicated, then press ▷ to enter. Enter the remaining characters the same way (maximum of 4).
After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press ◁ until the incorrect character begins blinking. Then enter the correct character by pressing ∆∇.

3

CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

The characters available for the station name (ID) are A–Z, 0–9, –, ∗, +, ␣ (space) (maximum of 4).

TV Station And ID List

STATION NAME	ID*
Anglia TV	ANGL
ARD	ARD
ARTE	ARTE
BBC Group	BBC
BBC1	BBC1
BBC2	BBC2
Berlin 1	BLN1
Berlin 2	BLN2
Border TV	BORD
Bayern1	BR1
Bayern3	BR3
BRT1	BRT1
BRT2	BRT2
Children Ch	CHLD
Canal +	CH+
CNN	CNN
Channel TV	CHNL
Central TV	CNTR
Channel 4	CH 4
Channel 5	CH 5
DRS	DRS
DR TV	DRTV
DSF	DSF
Euronews	EURN
Euronews	EURO
Eurosports	EURS
France1	FR1
France2	FR2
France3	FR3
Granada TV	GRNA
Grampian TV	GRMP
Hessen1	HR1
Hessen3	HR3
HRT	HRT
HTV	HTV
ITV Network	ITV
Kabelkanal	KABL
London	LNDN
MDR	MDR
MTV	MTV
Nord3	N3
NDR1	NDR1
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
Network 2	NET2
NRK	NRK
N-TV	N-TV
Offener Kanal	OKAN
ORF1	ORF1
ORF2	ORF2
ORF3	ORF3
OWL 3	OWL3
Premiere	PRMI
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RB1	RB1
RB3	RB3
Rikisutvarpid-S	RKPS
RTBF 1	RTB1
RTBF 2	RTB2
RTE 1	RTE1
RTL	RTL
RTL 2	RTL2
RTP	RTP
SAT	SAT
SAT 1	SAT1
Scottish TV	SCOT
SC4	SC4
SDR	SDR
SDR1	SDR1
SFB1	SFB1
SFB3	SFB3
SKY	SKY
Sky One	SKY1
Sky Net	SKYN
Sport	SPRT
SR 1	SR1
Super RTL	SRTL
STV Test	STVT
STV 1	STV1
STV 2	STV2
Suedwest3	SWR
SWF 1	SWF1
Schweiz4	SWZ4
TYNE TEES	TEES
Text	TEXT
TF1	TF1
TNT int	TNT
TRT int	TRT
TSI	TSI
TSR	TSR
TSW	TSW
TVE	TVE
TV Polonia	TVPA
TVP 1	TVP1
TVP 2	TVP2
TVS	TVS
TV2	TV2
TV5	TV5
Tele Zurich	TZUR
Ulster TV	ULST
Veronica	VERN
VIVA	VIVA
VIVA2	VIV2
VOX	VOX
VTM	VTM
VT4	VT4
West1	WDR1
West3	WDR3
YLE 1	YLE1
YLE 2	YLE2
Yorkshire TV	YORK
ZDF	ZDF
Zurich 1	ZUR1
3SAT	3SAT

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen each time the recorder is tuned to a different station.

TV Station Channel Number Guide

For customers in the U.K.

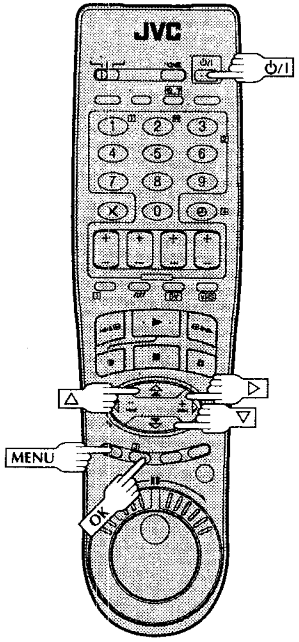
Only the main stations are listed. There are in addition many relay stations, and full lists are available from the BBC and ITV.

	BBC1	BBC2	ITV	CH4	CH5
London & South-East					
Bluebell Hill	40	46	43	65	—
Crystal Palace	26	33	23	30	37
Dover	50	56	66	53	—
Heathfield	49	52	64	67	—
Oxford	57	63	60	53	49
South-West					
Beacon Hill	57	63	60	53	—
Caradon Hill	22	28	25	32	—
Huntshaw Cross	55	62	59	65	67
Redruth	51	44	41	47	37
Stockland Hill	33	26	23	29	—
Channel Islands					
Fremont Point	51	44	41	47	—
South					
Hannington	39	45	42	66	35
Midhurst	61	55	58	68	—
Rowridge	31	24	27	21	—
West					
Mendip	58	64	61	54	37
East					
Sandy Heath	31	27	24	21	39
Sudbury	51	44	41	47	35
Tacolneston	62	55	59	65	52
Midlands					
Ridge Hill	22	28	25	32	35
Sutton Coldfield	46	40	43	50	37
The Wrekin	26	33	23	29	35
Waltham	58	64	61	54	35
North					
Belmont	22	28	25	32	56
Emley Moor	44	51	47	41	37

	BBC1	BBC2	ITV	CH4	CH5
North-West					
Caldbeck	30	34	28	32	56
Winter Hill	55	62	59	65	48
North-East					
Bilsdale West Moor	33	26	29	23	35
Chatton	39	45	49	42	—
Pontop Pike	58	64	61	54	68
Scotland					
Angus	57	63	60	53	—
Black Hill	40	46	43	50	37
Sandale	22	—	—	—	—
Caldbeck	—	34	28	32	56
Creigkelly	31	27	24	21	48
Darvel	33	26	23	29	35
Durris	22	28	25	32	67
Eitshal	33	26	23	29	—
Keelylang Hill	40	46	43	50	—
Knock More	33	26	23	29	—
Rosemarkie	39	45	49	42	67
Rumster Forest	31	27	24	21	—
Selkirk	55	62	59	65	52
Wales					
Blaenplwyf	31	27	24	21	56
Carmel	57	63	60	53	—
Llanddona	57	63	60	53	—
Moel-y-Parc	52	45	49	42	—
Presely	46	40	43	50	37
Wenvoe	44	51	41	47	—
Northern Ireland					
Brougher Mountain	22	28	25	32	—
Divis	31	27	24	21	37
Limavady	55	62	59	65	—

Clock Set

Turn on the TV and select the AV mode.



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "ON"). Press **OK** until the Just Clock setting begins blinking, then press △▽ to change the setting.

IMPORTANT: If you turn the Just Clock function off, the accuracy of your recorder's built-in clock may be impaired, which could adversely affect timer recording.

NOTES:

- *Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.*
- *Just Clock is not effective when . . .*
  - *the recorder's power is on.*
  - *the recorder is in the Timer mode.*
  - *a difference of more than 3 minutes exists between the built-in clock's time and the actual time.*
- *If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.*
- *Just Clock may not function properly in poor reception conditions.*

IMPORTANT
If you performed Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 62), without ever having set the clock previously, the recorder's built-in clock is also set automatically.
Perform the following steps only if —
— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
or
— the recorder's memory backup has expired.
or
— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press ⏻/I.

2 ACCESS MAIN MENU SCREEN

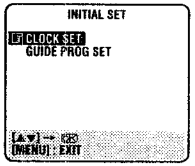
Press **MENU**.

3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing △▽, then press **OK** or ▷.

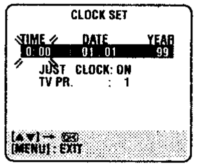
4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing △▽, then press **OK** or ▷. The Clock Set screen appears.


INITIAL SET

CLOCK SET
GUIDE PROG SET

[▲▼] → OK
[MENU] : EXIT


CLOCK SET

TIME DATE YEAR
0:00 01 01 99
JUST CLOCK: ON
TV PR. : 1

[▲▼] → OK
[MENU] : EXIT

5 SET DATE AND TIME

Press △▽ to set the time, then press **OK** or ▷. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold △▽ to change the time by 30 minutes.
- When you set the date, press and hold △▽ to change the date by 15 days.

6 SET JUST CLOCK

The default setting is "ON". Set as desired by pressing △▽, then press **OK** or ▷.

- For the Just clock function, ☞ "Just Clock" on the left.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE PRESET

The recorder is preset to receive clock setting and adjustment data from preset position 1. Press △▽ to set the preset position to the number representing the station transmitting clock setting data (BBC1, BBC2, etc.), then press **OK** or ▷.

8 START CLOCK OPERATION

Press **MENU**.

VIDEO Plus+ Setup

IMPORTANT

Normally, Auto Set Up (☞ pg. 8), Preset Download (☞ pg. 9) or Auto Channel Set (☞ pg. 62) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- *When timer-programming with VIDEO Plus+, the preset position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Number for that station manually.

- *When you delete a channel or change preset positions manually after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Numbers for all the receivable stations manually.

- *When you wish to timer-record a satellite programme with VIDEO Plus+.*

— Set the Guide Program Numbers for all satellite broadcasts received on your satellite receiver.

Turn on the TV and select the AV mode.

Guide Program Number Set

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS INITIAL SET SCREEN

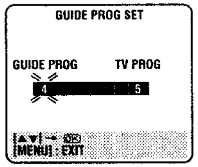
Press △▽ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3 ACCESS GUIDE PROG SET SCREEN

Press △▽ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or ▷.

4 ENTER GUIDE PROG NUMBER

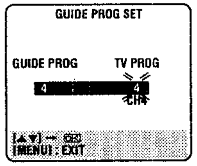
Press △▽ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or ▷.



(Ex.) When inputting the Guide Program number 4 for CH4.

5 ENTER RECEIVING PRESET POSITION NUMBER

Press △▽ or **NUMBER** keys to input the number of the recorder's preset position on which the Guide Program number's broadcast is received. Then press **OK** or ▷.



(Ex.) If CH4 is received on preset position 4.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-2", select "L-2" for the preset position.
- Repeat steps **4** and **5** as necessary.

6 RETURN TO NORMAL SCREEN

Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for VIDEO Plus+ timer recording. The Guide Program numbers can be found in most TV listings.

Questions And Answers

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes (VHS deck) or 3 minutes (DV deck) to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?
A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?
A. No. The video recorder shuts off automatically after 5 minutes (VHS deck) or 3 minutes (DV deck) to protect the heads.

Q. What happens if the tape runs out during recording?
A. The video recorder automatically rewinds it to the beginning or, if Timer Recording, the cassette is ejected.

TIMER RECORDING

Q. "◌" and "◴" remain lit on the display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?
A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the program or tape you're viewing can be heard.

Q. Is it possible to timer-record a TV programme broadcast in 2000?
A. Yes, it is possible.

ATTENTION

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

Troubleshooting

Before requesting service for a problem, use this chart to see if you can correct the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	• The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	• "⏲" is displayed on the display panel with Auto Timer set to "OFF".	Press the ⏲ button to turn the "⏲" indicator off.
3. The remote control won't function.	• The batteries are discharged. • The **VCR/TV/SAT** switch is in the wrong position.	Replace the dead batteries with new ones. Set the switch to the position corresponding with the unit you want to operate.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	• "▦" is displayed on the display panel.	Press **PLAY** to turn the "▦" indicator off.
2. The tape will not rewind or fast-forward.	• The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	• If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	• This is normal.	
3. Noise appears during normal playback (VHS deck).	• The automatic tracking mode is engaged.	Try manual tracking. (☞ pg. 26)
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	• The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack (VHS deck).	• Automatic tracking is engaged.	Engage and adjust tracking manually. (☞ pg. 26)

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	• **VHS deck** There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed. • **DV deck** There is no cassette loaded, or the cassette loaded has had its erase protection switch set to "SAVE".	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed. Insert a cassette, or set the erase protection switch to "REC".
2. TV broadcasts cannot be recorded.	• "L-1", "L-2" or "L-3" has been selected as the input mode.	Set to the desired channel.
3. Tape-to-tape editing is not possible.	• The source (another video recorder, camcorder) has not been properly connected. • All necessary power switches have not been turned on. • The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "L-1", "L-2" or "L-3".

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
4. Camcorder recording is not possible.	• The camcorder has not been properly connected. • The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "L-1", "L-2" or "L-3".
5. Audio dubbing is not possible.	• "SOUND MODE" on the DV Mode Set Menu had been set to "48kHz" at the original recording. • The tape speed had been set to LP at the original recording.	Set "SOUND MODE" to "32kHz" at the original recording (☞ pg. 31). Set the tape speed to SP at the original recording.
6. Monitoring the audio-dubbed sound is not possible during audio dubbing using the DV deck.	• This is normal.	Monitor the sound using the connected devices.
7. The programmed memory of Random Assmble Editing is disappeared.	• The memory backup time has expired.	Perform Random Assemble Editing again.
8. When performing Tape Dubbing, the beginning of the dubbing start point is not dubbed.	• This is normal.	
9. When starting Tape Dubbing, the recorder stops dubbing after a few seconds and ejects both the VHS and Mini DV tapes.	• The NTSC tape is played back on the VHS deck.	• Dubbing from the NTSC tape to the Mini DV tape is not possible.
10.When starting Normal Dubbing, the recorder stops dubbing after a few seconds.	• The NTSC tape is played back on the VHS deck.	• Dubbing from the NTSC tape to the Mini DV tape is not possible.

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	• The clock and/or the timer have been set incorrectly. • The timer is not engaged.	Re-perform the clock and/or timer settings. Press ⏲ and confirm that "⏲" is displayed on the display panel.
2. Timer programming is not possible.	• Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "⏲" and "🖭" on the display panel won't stop blinking.	• The timer is engaged but there's no cassette loaded.	**VHS deck** Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape. **DV deck** Load a cassette with the erase protection switch set to "REC".
4. The cassette is automatically ejected, and "⏲" and "🖭" on the display panel won't stop blinking.	• **VHS deck** The loaded cassette has had its Record Safety tab removed. • **DV deck** The loaded cassette has had its erase protection switch set to "SAVE".	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact. Remove the cassette and set the erase protection switch to "REC".
5. "⏲" blinks for 10 seconds and the Timer mode is disengaged.	• ⏲ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-program as necessary, then press ⏲ again.
6. The cassette is automatically ejected, the power shuts off and "⏲" and "🖭" won't stop blinking.	• The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.

TIMER RECORDING

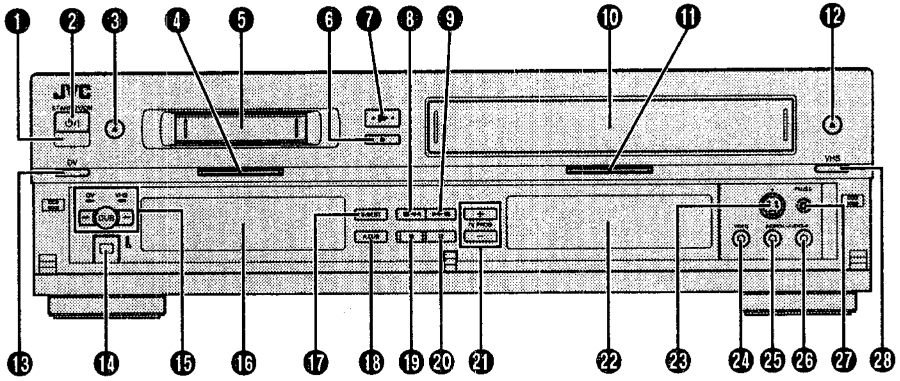
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
7. VIDEO Plus+ does not timer-record properly.	• The recorder's channel positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 70).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	• The camcorder's microphone is too close to the TV. • The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	• Those channels have been designated to be skipped.	If you need the skipped channels, restore them (☞ pg. 64).
3. The channel cannot be changed.	• Recording is in progress.	Press **PAUSE** to pause the recording, change channels, then press **PLAY** to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	• After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	• The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (☞ pg. 8).
6. The remote control won't operate the TV or satellite tuner.	• The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 50, 51).

Index

FRONT VIEW



① **Infrared Beam Receiving Window** is where remote control should be aimed when in use.

② **STANDBY/ON ⏻/I Button** turns recorder on/off (loading a cassette also turns power on).

③ **DV EJECT Button** ejects DV tape during Stop mode. ☞ pg. 12

④ **DV Indicator** lights when the DV button is pressed. ☞ pg. 12

⑤ **Mini DV Cassette Loading Slot** is where cassette is inserted; door closes, "cassette loaded" indicator lights up on DV display panel.

⑥ **STOP Button** stops tape. ☞ pg. 12

⑦ **PLAY Button** plays back tape ☞ pg. 12; cancels Pause, Still, Slow, Search modes. ☞ pg. 13

⑧ **Rewind [REW] Button** rewinds tape ; initiates high-speed reverse search. ☞ pg. 12, 13

⑨ **Fast Forward [FF] Button** fast-forwards tape; initiates high-speed forward search. ☞ pg. 12, 13

⑩ **VHS Cassette Loading Slot** is where cassette is inserted; door closes, "cassette loaded" indicator lights up on VHS display panel.

⑪ **VHS Indicator** lights when the VHS button is pressed. ☞ pg. 12

⑫ **VHS EJECT Button** ejects VHS tape during Stop mode. ☞ pg. 12

⑬ **DV Button** enables operations on DV deck. ☞ pg. 12

⑭ **DV IN/OUT connector (i.Link*)** enables connection to digital video devices. ☞ pg. 40

** i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The* **i** *logo is used for products compliant with the i.Link standard.*

⑮ **Dubbing [DUB] Button** starts Tape Dubbing. ☞ pg. 34
Dubbing Direction [→/←] Buttons select dubbing direction. ☞ pg. 34

⑯ **DV Display Panel** provides clear view of various displays and indicators for DV deck. ☞ pg. 77

⑰ **INSERT Button** engages Insert Editing mode. ☞ pg. 46

⑱ **A. DUB Button** engages Audio Dubbing mode. ☞ pg. 44

⑲ **RECORD Button** starts regular recording (press once), Instant Timer Recording (press twice); sets duration of ITR. ☞ pg. 15, 17

⑳ **PAUSE Button** stops tape temporarily during recording ☞ pg. 15; stops tape temporarily during playback; plays back frame by frame with each additional press. ☞ pg. 13

㉑ **TV PROG +/– Buttons** select a preset position. ☞ pg. 15

㉒ **VHS Display Panel** provides clear view of various displays and indicators for VHS deck. ☞ pg. 76

㉓ **S-VIDEO Input Connector** enables S-VIDEO connection to camcorder or second recorder. ☞ pg. 40

㉔ **VIDEO Input Connector** enables easy connection of video output from another recorder or camcorder for editing. ☞ pg. 40

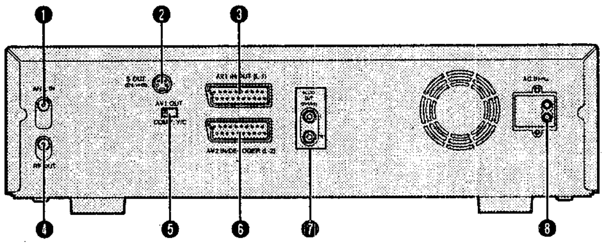
㉕ **AUDIO Input Connector [L]** enables easy connection of audio output (mono) from another recorder, camcorder or other source for editing. ☞ pg. 40

㉖ **AUDIO Input Connector [R]** enables easy connection of audio output (Hi-Fi) from another recorder, camcorder or other source for editing. ☞ pg. 40

㉗ **Remote PAUSE Connector** enables connection to second recorder equipped with R.A. Edit connector, or to JVC camcorder equipped with Master Edit Control, for easy editing. ☞ pg. 40

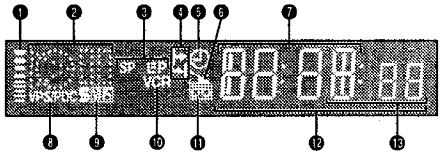
㉘ **VHS Button** enables operations on VHS deck. ☞ pg. 12

REAR VIEW



❶ **ANT. IN Connector** enables connection of aerial. ☞ pg. 6, 7
❷ **S OUT Connector** enables S-VIDEO connection to TV or second recorder. ☞ pg. 7, 42
❸ **AV1 IN/OUT Connector** enables AV connection to TV or second recorder; input recordable when "L-1" selected. ☞ pg. 6, 42
❹ **RF OUT Connector** enables connection to aerial terminal of TV receiver. ☞ pg. 6, 7
❺ **AV1 OUT Switch** selects the type of signal output via the 21 pin AV1 IN/OUT connector. ☞ pg. 6, 57
❻ **AV2 IN/DECODER Connector** enables connection of satellite receiver, decoder or second recorder; input recordable when "L-2" selected. ☞ pg. 42, 57
❼ **AUDIO OUT (L/R) Connectors** enable connection of audio cassette recorder, TV or second video recorder for dubbing. ☞ pg. 58
❽ **Mains Power Inlet** enables connection to a mains outlet using the provided Mains Power Cord. ☞ pg. 6, 7

VHS DISPLAY PANEL



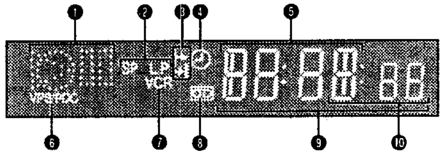
❶ **B.E.S.T. Picture System Display** lights from bottom to top while B.E.S.T. is active. ☞ pg. 24
❷ **Symbolic Mode Indicators**

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▥
		RECORD:	○
		RECORD PAUSE:	○▥
AUDIO DUBBING:			☼
AUDIO DUBBING PAUSE:			☼▥
INSERT:			⊳
INSERT PAUSE:			⊳▥
AUDIO DUBBING INSERT:			☼⊳
AUDIO DUBBING INSERT PAUSE:			☼⊳▥

❸ **Tape Speed Indicators** display mode of recording; light during Record or Play mode. ☞ pg. 15
** EP is only for NTSC playback.*

❹ **Programme Time Indicators** show the programme start time (|→) and the programme stop time (→|) for timer-recording. ☞ pg. 20
❺ **"Timer" Indicator** lights when ⊕ has been pressed to engage Timer mode. ☞ pg. 19, 21
❻ **Tape Remaining Time Indicator** displays time remaining on tape when certain buttons are pressed. ☞ pg. 17
❼ **Channel Display** shows preset position where the station currently being received is stored.
Clock Display shows current time. ☞ pg. 10
❽ **PDC Indicator** lights when PDC has been engaged for timer recording. ☞ pg. 19, 21
** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*
❾ **S-VHS Indicator** lights when a cassette marked S-VHS is inserted with S-VHS mode set to "AUTO", and when an S-VHS-recorded tape is played back. ☞ pg. 23
❿ **VCR Indicator** lights when the video recorder is in the video mode. At this point, the TV automatically enters AV mode. ☞ pg. 12
⓫ **"Cassette Loaded" Mark** lights once a cassette is inserted; remains lit until cassette ejected.
⓬ **Counter** shows time elapsed since playback or recording began.
With ▶◣ displayed, shows time remaining from current tape position to end of tape (☞ pg. 17).
Counter, Preset Position*, Clock and Tape Remaining Time Display appear alternately when – –:– – **(DISPLAY)** is pressed.
** Preset Position is not displayed during playback.*
⓭ **Mode** shows external input mode selected (L-1, L-2 or L-3).

DV DISPLAY PANEL

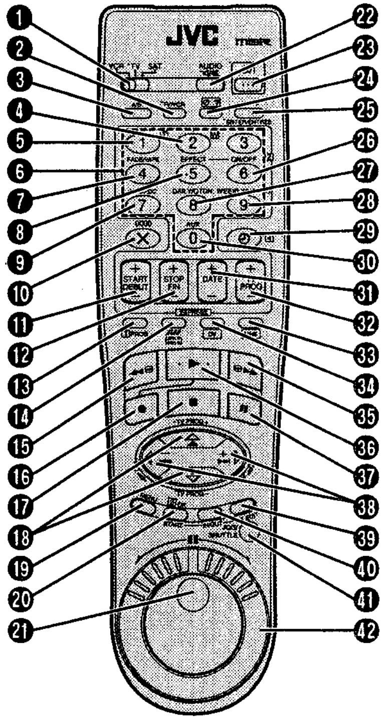


❶ **Symbolic Mode Indicators**

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷▥
		RECORD:	○
		RECORD PAUSE:	○▥
AUDIO DUBBING:			☼
AUDIO DUBBING PAUSE:			☼▥
INSERT:			⊳
INSERT PAUSE:			⊳▥
AUDIO DUBBING INSERT:			☼⊳
AUDIO DUBBING INSERT PAUSE:			☼⊳▥

❷ **Tape Speed Indicators** display mode of recording; light during Record or Play mode. ☞ pg. 15
❸ **Programme Time Indicators** show the programme start time (|→) and the programme stop time (→|) for timer-recording. ☞ pg. 20
❹ **"Timer" Indicator** lights when ⊕ has been pressed to engage Timer mode. ☞ pg. 19, 21
❺ **Channel Display** shows preset position where the station currently being received is stored.
Clock Display shows current time. ☞ pg. 10
❻ **PDC Indicator** lights when PDC has been engaged for timer recording. ☞ pg. 19, 21
** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*
❼ **VCR Indicator** lights when the video recorder is in the video mode. At this point, the TV automatically enters AV mode. ☞ pg. 12
❽ **"Cassette Loaded" Mark** lights once a cassette is inserted; remains lit until cassette ejected.
❾ **Time Code Display** shows time elapsed since playback or recording began. ☞ pg. 14
❿ **Mode** shows external input mode selected (L-1, L-2 or L-3).

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV. ☞ pg. 50

① **VCR/TV/SAT Switch** enables remote control of VCR or connected TV or satellite receiver. ☞ pg. 50, 51

② **TV/VCR Button** switches connected TV's mode between TV and AV. ☞ pg. 12, 15

③ **A/B Code Button** enables setting of recorder to respond to A- or B-code command signals. ☞ pg. 49

④ **Zoom Button [W]** zooms out on an image during playback. ☞ pg. 28

⑤ **Zoom Button [T]** zooms in on an image during playback. ☞ pg. 28

⑥ **NUMBER Keys** are used in preset position selection ☞ pg. 15, Video Plus+ timer programming ☞ pg. 18.

⑦ **FADE/WIPE Button** selects Fade/Wipe effect at Random Assemble Editing. ☞ pg. 37

⑧ **EFFECT Button** selects playback effect during playback or at Random Assemble Editing. ☞ pg. 28, 37

⑨ **PDC Button** enables/disables PDC recording. ☞ pg. 19, 21

** VPS (Video Programme System) recording is not currently available in the U.K. and not possible with this recorder.*

⑩ ✕ **Button** cancels timer-programme. ☞ pg. 22
0000 Button resets counter to 0:00:00. ☞ pg. 17

⑪ **START +/– Button** accesses Regular Program screen; inputs programme Start Time. ☞ pg. 20

⑫ **STOP +/– Button** inputs programme Stop Time. ☞ pg. 20

⑬ **PROG Button** accesses Video Plus+ Program screen. ☞ pg. 18

⑭ **Auto Tracking Button (*///*)** enables/disables auto tracking mode during playback ☞ pg. 26
SP/LP Button selects tape speed. ☞ pg. 15

⑮ **Rewind [REW] Button** — same as button on recorder. ☞ pg. 12, 13

⑯ **Record Button** — same as button on recorder. ☞ pg. 15

⑰ **Stop Button** — same as button on recorder. ☞ pg. 12

⑱ △▽ **Button** is used for selection in on-screen menus. ☞ pg. 11
TV PROG +/– selects the connected TV's/ satellite receiver's channel. ☞ pg. 50, 51

⑲ **MENU Button** accesses Menu screen. ☞ pg. 11

⑳ **OK Button** enters selections made in on-screen menus. ☞ pg. 11
START Button starts Random Assemble Editing. ☞ pg. 36

㉑ **JOG Dial** plays back frame by frame during Still or Play mode. ☞ pg. 13

㉒ **AUDIO Button** changes output sound mode. ☞ pg. 30
◁/🔇 (TV Muting) Button mutes sound of connected TV. ☞ pg. 50

㉓ **STANDBY/ON ⏻/I Button** — same as button on recorder.

㉔ **◷ ? Button** accesses Program screens/displays to check the programme that you have programmed (next programme's information screen/display appears each time button is pressed). ☞ pg. 22

㉕ **– –:– – (DISPLAY) Button** switches display between clock time, tape remaining time, counter readings and preset position*. ☞ pg. 17

** Preset position is not displayed during playback.*

ENTER Button is used for TV channel selection. ☞ pg. 50

㉖ **ON/OFF Button** turns on and off the playback effect. ☞ pg. 28

㉗ **DAILY Button** enables timer recording of daily serials. ☞ pg. 19, 21

㉘ **WEEKLY Button** enables timer recording of weekly serials. ☞ pg. 19, 21

㉙ **◷ Button** engages timer-standby mode. ☞ pg. 19, 21

㉚ **AUX Button** selects recorder's auxiliary input mode. ☞ pg. 40, 42

㉛ **DATE +/– Button** inputs date of programme for timer recording. ☞ pg. 20

㉜ **TV PROG +/– Button** — same as button on recorder. ☞ pg. 15

㉝ **VHS Button** enables operations on VHS deck. ☞ pg. 12

㉞ **DV Button** enables operations on DV deck. ☞ pg. 12

㉟ **Fast Forward [FF] Button** — same as button on recorder. ☞ pg. 12, 13

㊱ **Play Button** — same as button on recorder. ☞ pg. 12, 13

㊲ **Pause Button** — same as button on recorder. ☞ pg. 13

㊳ ◁ ▷ **Button** initiates functions such as Index Search ☞ pg. 29, variable-speed search, frame by frame playback. ☞ pg. 13
TV ◿ +/–Button controls volume of connected TV. ☞ pg. 50

㊴ **R.A. EDIT Button** accesses R.A. EDIT screen. ☞ pg. 36

㊵ **IN/OUT Button** registers edit-in or edit-out point for Random Assemble Editing. ☞ pg. 36

㊶ **JOG/SHUTTLE Button** enables use of the remote control's JOG dial/SHUTTLE ring. ☞ pg. 13

㊷ **SHUTTLE Ring** performs forward and reverse slow-motion and search during Still or Play mode. ☞ pg. 13

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite receivers of JVC and other brands. ☞ pg. 50, 51.

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.*

SECTION 1
DISASSEMBLY

1.1 HOW TO REMOVE THE MAJOR PARTS

1.1.1 Introduction

This set is a double-deck video recorder integrating a Mini DV deck and a VHS deck. Its internal structure is divided into three sections that include the power supply, VHS and DV sections. Therefore, the removal of major parts will also be described under three separate sections as listed below.

1. COMMON section
2. VHS section
3. DV section

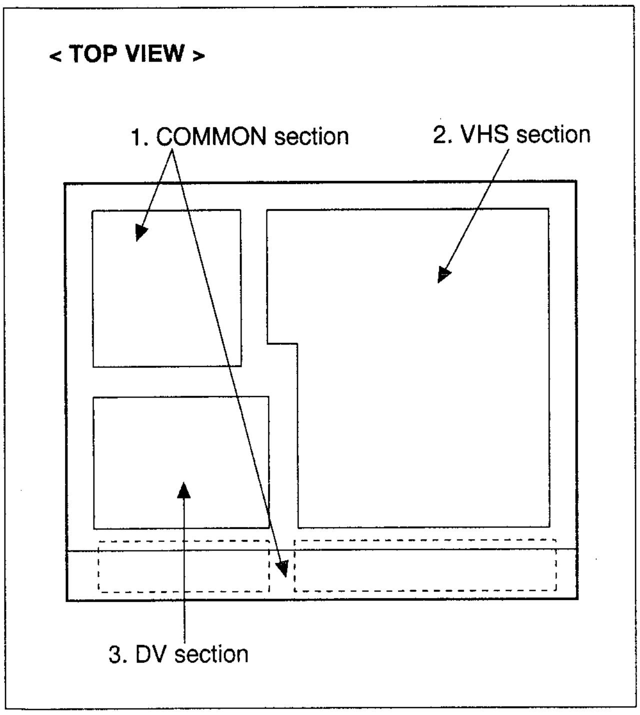


Fig. 1-1-1

1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Top cover	COM1	7(S1), 2(L1), (L2)	—
②	Front panel assembly	COM2	8(L3), CN7507(WR1), CN3011(WR2)	<NOTE 1, 2,3,4>
③	Display board assembly, Display/SW board assembly, SW board assembly, LED1,2 board assembly	COM3	16(S2), (L4)	—
④	SW REG board assembly	COM4	2(S3), 2(S4), CN5301(WR3), Shield plate, (SD1)	<NOTE 1, 5, 6>
⑤	Regulator board assembly	COM5	(L5), (L6), (L7), CN5322(WR4), CN5321(WR5), CN5326(WR6), CN5325(WR7), CN5323(WR8)	<NOTE 1>
⑥	Rear cover	COM6	5(S5), 6(S6), Fan motor	<NOTE7,8>
↑ (1)	↑ (2)	↑ (3)	↑ (4)	↑ (5)

(1) Order of steps in Procedure
When reassembling, perform the step (s) in the Reverse order. These numbers are also used as the identification (location) NO. of parts figures.

(2) Part name to be removed or installed.

(3) Fig. No. showing procedure or parts location.

(4) Identification of part to be removed, unhooked, unlocked, released, unpluged, unclamped, or unsoldered.

S = Screw
SD = Soldered point
L = Locking tab
P = Spring
W = Washer
CNxx = Remove the wire (WRxx) from the Connector (CNxx)

NOTE : *The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.*

(5) Adjust information for installation.

1.3 DISCONNECTION OF CONNECTORS (WIRES)

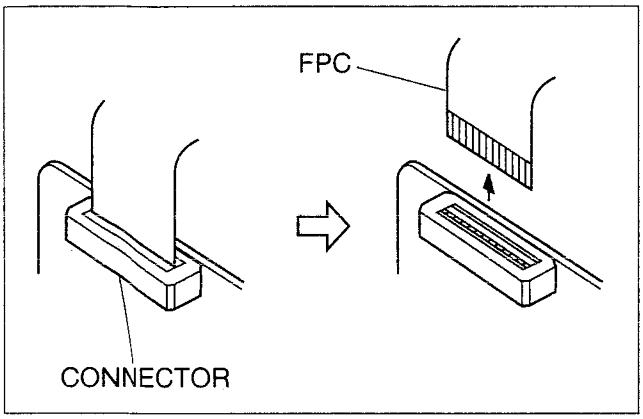


Fig. 1-3-1

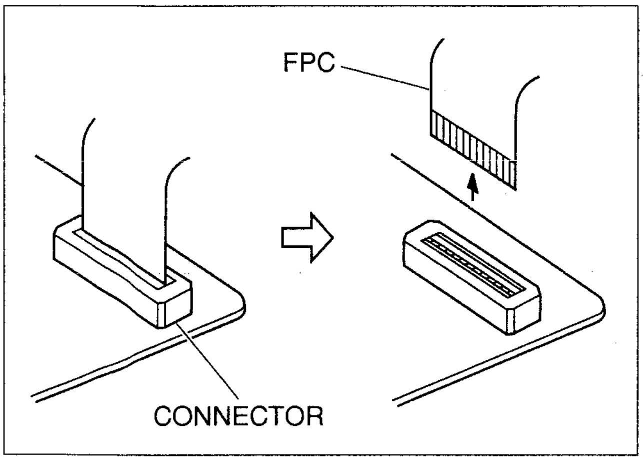


Fig. 1-3-2

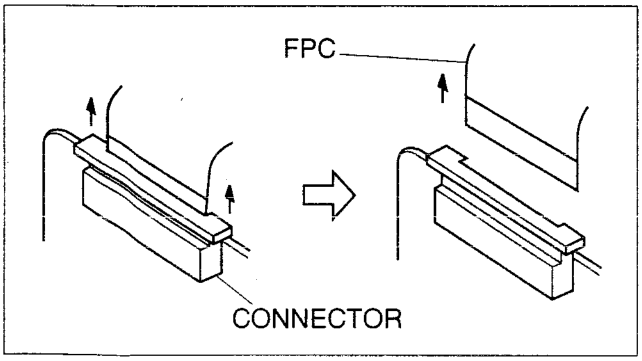


Fig. 1-3-3

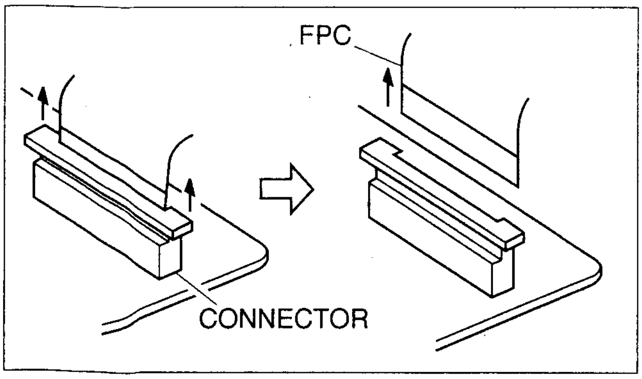


Fig. 1-3-4

1.4 SCREWS USED CABINET COMPONENTS AND BOARD ASSEMBLIES

Table 1-1-1 below shows the symbols, shapes, colours and part numbers of screw that are used in the cabinet components and board assemblies and are appearing in the disassembling/reassembling diagrams in this manual.
When screwing them again in reassembling, be sure to use them correctly referring to the following table.

NOTE: *Screw that are asterisked (marked with*) in the shape column are fixed with screw lock agent. If such the screw is once removed, never use it again.*

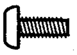
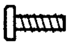
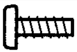
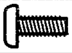
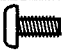
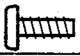
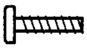
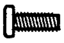
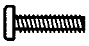
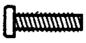
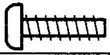
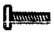
SYMBOL	SHAPE	PARTS NO.	COLOUR
S1		QYTDST3006R	SILVER
S2		QYTDSF2606Z	GOLD
S3		QYTDSG3008M	BLACK
S4		QYTDST3006Z	GOLD
S5		QYTDST3006M	BLACK
S6		QYTDSF3008M	BLACK
S7		QYTDSF3010Z	GOLD
S8		SPST2606Z	GOLD
S9		SDST2610Z	GOLD
S10		QYTDST2610Z	GOLD
S11		QYTDSF4012Z	GOLD
S12		QYTDSP2004Z	GOLD
S13		QYTDST2004Z	GOLD
S14		QYTDST2005Z	GOLD
S15		YQ43893	SILVER

Table 1-4-1

1.5 HOW TO REMOVE THE MAJOR PARTS <COM section>

1.5.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.

① Top cover
↓
② Front panel assembly
↓
③ Display board assembly, Display/SW board assembly, SW board assembly, LED1, 2 board assembly
↓
④ SW REG board assembly
↓
⑤ Regulator board assembly
↓
⑥ Rear cover

1.5.2 Disassembly/assembly method <COM section>

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Top cover	COM1	7(S1), 2(L1), (L2)	—
②	Front panel assembly	COM2	8(L3), CN7507(WR1), CN3011(WR2)	<NOTE 1, 2,3,4>
③	Display board assembly, Display/SW board assembly, SW board assembly, LED1, 2 board assembly	COM3	16(S2), (L4)	—
④	SW REG board assembly	COM4	2(S3), 2(S4), CN5301(WR3), Shield plate, (SD1)	<NOTE 1, 5, 6>
⑤	Regulator board assembly	COM5	(L5), (L6), (L7), CN5322(WR4), CN5321(WR5), CN5326(WR6), CN5325(WR7), CN5323(WR8)	<NOTE 1>
⑥	Rear cover	COM6	5(S5), 6(S6), Fan motor	<NOTE7,8>

<NOTE 1>
When attaching the FPC, be sure to connect it in the correct orientation.

<NOTE 2>
When attaching the front panel assy, make sure that the door openers of both decks (DV, VHS) are in the down position.

<NOTE 3>
When attaching the front panel assy, be careful not to damage the DV terminals.

<NOTE 4>
When attaching the FPC take care that it is not caught.
Pass the DV-side FPC between the base (2) and DV main board assy.
Pass the two VHS-side FPCs below the base (1).

<NOTE 5>
During assembly, be sure to fit the power socket inside the rear cover frame and take care not to damage it.

<NOTE 6>
When removing the shield plate from the switching regulator board assy, take care not to peel off the pattern on the soldered side.

<NOTE 7>
Perform the work by leaving fan motor attached to the rear cover except when replacing the fan motor.
When attaching the rear cover, please be careful with the wiring.

<NOTE 8>
Take care not to damage the switch (AV1 OUT) during assembly.

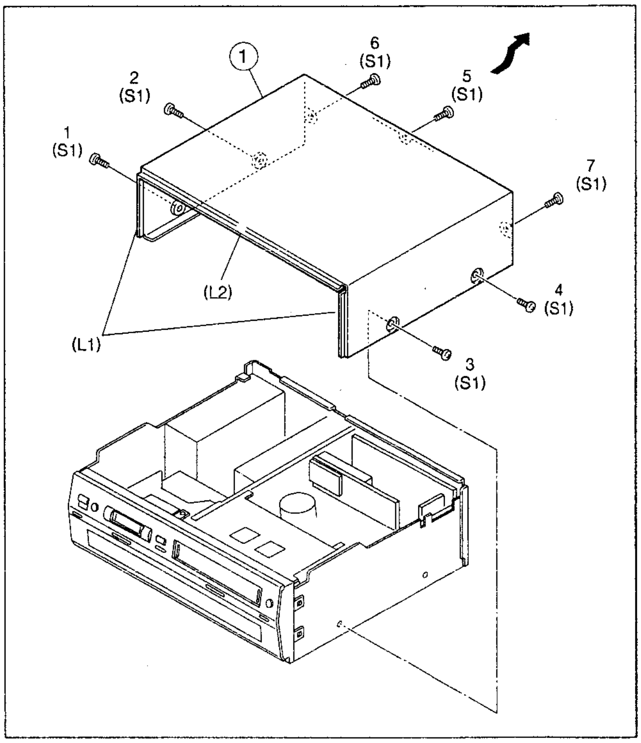


Fig. COM1

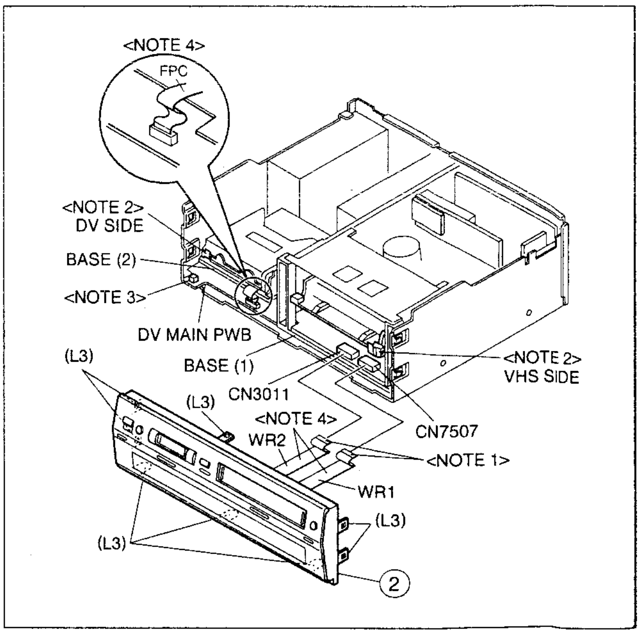


Fig. COM2

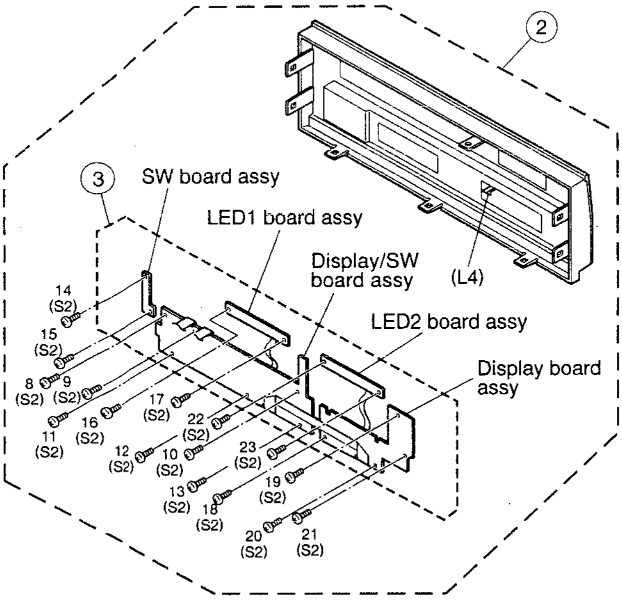

②
③
SW board assy
LED1 board assy
Display/SW board assy
(L4)
LED2 board assy
Display board assy
14 (S2)
15 (S2)
8 (S2)
9 (S2)
16 (S2)
11 (S2)
17 (S2)
22 (S2)
12 (S2)
10 (S2)
23 (S2)
13 (S2)
18 (S2)
19 (S2)
20 (S2)
21 (S2)

Fig. COM3

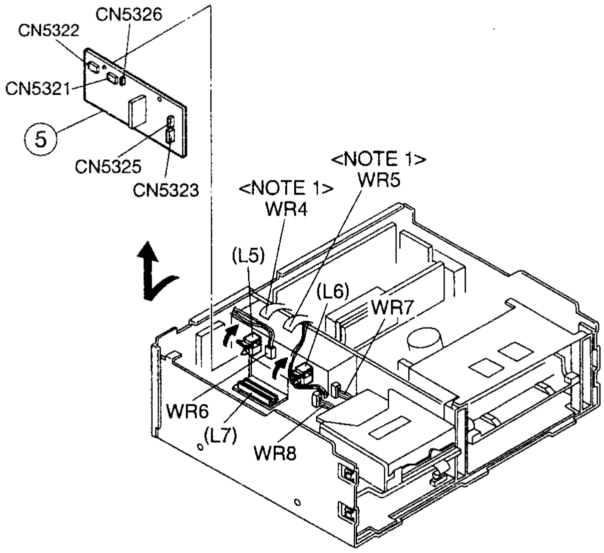

CN5326
CN5322
CN5321
⑤
CN5325
CN5323
<NOTE 1> WR5
<NOTE 1> WR4
(L5)
(L6)
WR7
WR6
(L7)
WR8

Fig. COM5

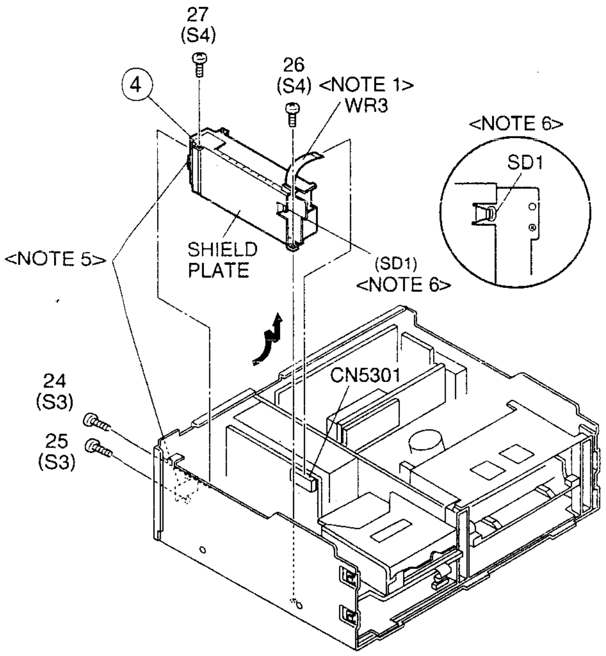

27 (S4)
26 (S4)
<NOTE 1> WR3
④
<NOTE 6>
SD1
<NOTE 5>
SHIELD PLATE
(SD1) <NOTE 6>
CN5301
24 (S3)
25 (S3)

Fig. COM4

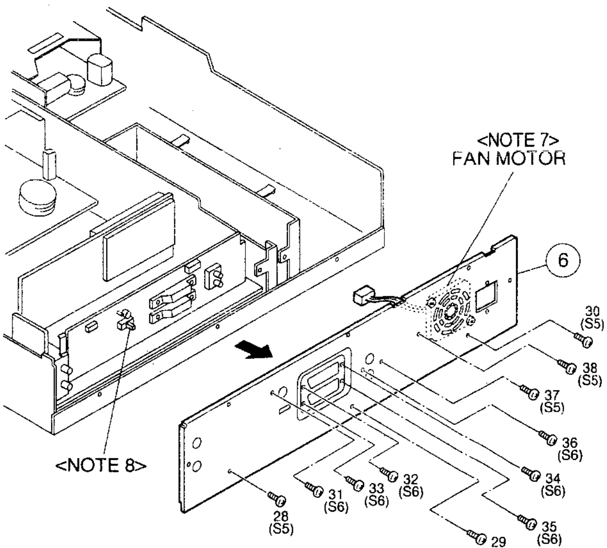
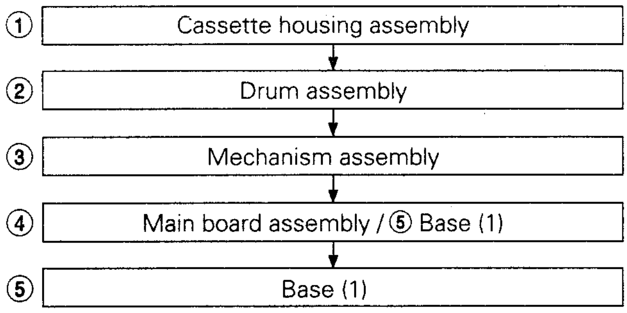

<NOTE 7> FAN MOTOR
⑥
30 (S5)
38 (S5)
37 (S5)
36 (S6)
34 (S6)
<NOTE 8>
32 (S6)
33 (S6)
31 (S6)
28 (S5)
35 (S6)
29 (S5)

Fig. COM6

1.6 HOW TO REMOVE THE MAJOR PARTS <VHS section>

1.6.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.
However, it is required to remove the common section parts as far as ① "Top cover" and ② "Front panel assembly" in advance. (See section 1.5)


① Cassette housing assembly
② Drum assembly
③ Mechanism assembly
④ Main board assembly / ⑤ Base (1)
⑤ Base (1)

1.6.2 DIsassembly/assembly method <VHS section>

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Cassette housing assembly	V1	2(S7), (S8), (S9), (L1),(L2),(L3),2(L4), Earth plate	<NOTE 1>
②	Drum assembly	V2	3(S10), CN1(WR9), CN1(WR10), (L5), Head cleaner assembly	<NOTE 2, 3,4>
③	Mechanism assembly	V3	2(S11), (L6), (L7), FE Head(WR11), A/C Head(WR12), CN3002(WR13), CN3003,CN3004	<NOTE 5, 6,7,8>
④	MAIN board assembly/ ⑤ Base(1)	V4	4(S4), 6(S6), (S7), CN3301(WR14), CN7102(WR15), CN5322(WR4), CN5321(WR5), CN2601(WR16)	<NOTE3,6>
⑤	Base (1)	V5	2(S7)	—

<NOTE 1>
When attaching the cassette housing assembly, take care not to damage S3001 (REC SAFETY SWITCH) and S3002 (CASS SWITCH).

<NOTE 2>
When attaching or removing the FPC, take care not to disconnect any of the wires.

<NOTE 3>
When attaching the FPC, be sure to connect it in the correct orientation.

<NOTE 4>
When attaching the head cleaner assembly, take care so that section ⓐ comes at the inner side of the guide rail ⓑ (on the drum side).

<NOTE 5>
When attaching wires, connect them in the correct orientation.

<NOTE 6>
Take care not to damage a part when attaching or detaching it.

<NOTE 7>
When attaching the spacer, take care about the orientation of the board assembly and spacer. Also be sure to attach it firmly.

<NOTE 8>
When attaching the main deck assembly, take care of the two connectors (CN3003, CN3004).

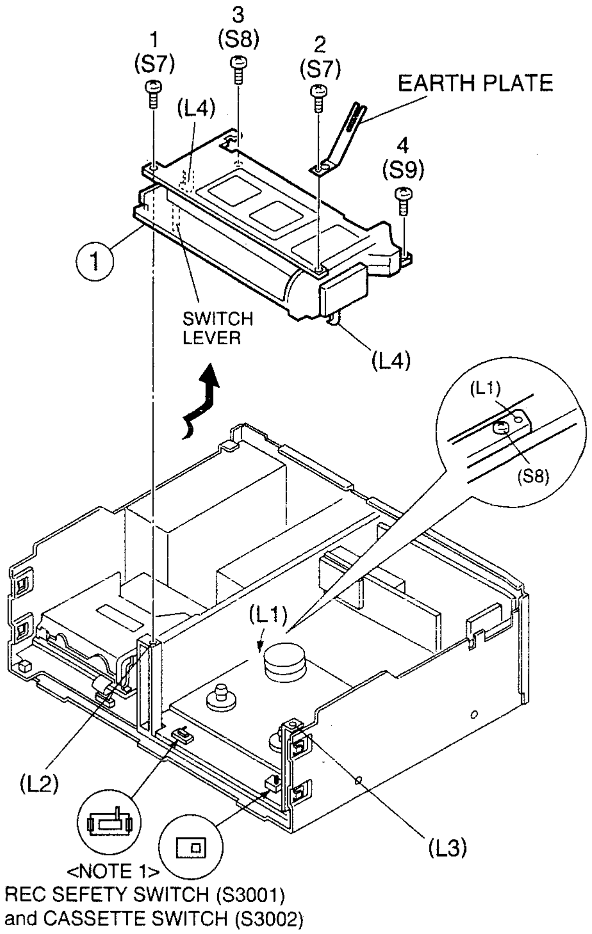

1 (S7)
3 (S8)
2 (S7)
EARTH PLATE
(L4)
4 (S9)
①
SWITCH LEVER
(L4)
(L1)
(S8)
(L1)
(L2)
(L3)
<NOTE 1>
REC SEFETY SWITCH (S3001)
and CASSETTE SWITCH (S3002)

Fig. V1

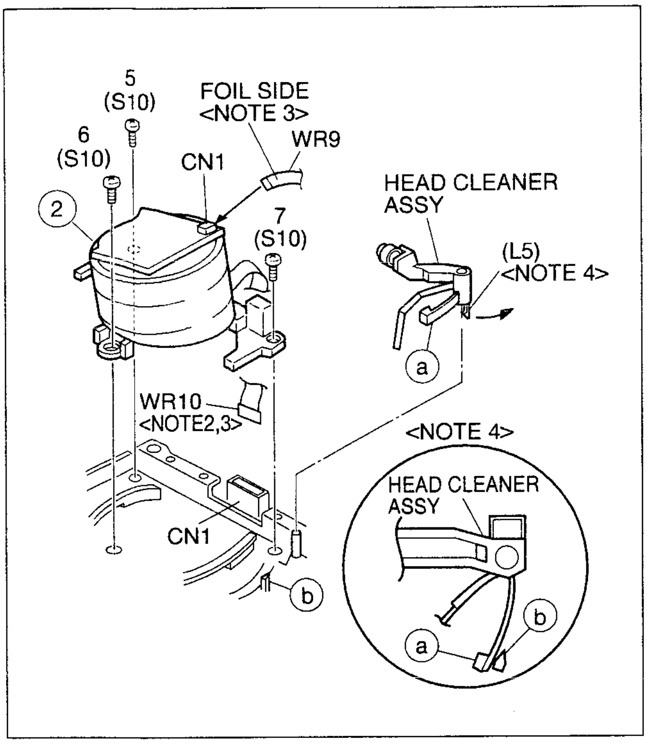

5
(S10)
FOIL SIDE
<NOTE 3>
WR9
6
(S10)
CN1
HEAD CLEANER
ASSY
2
7
(S10)
(L5)
<NOTE 4>
a
WR10
<NOTE2,3>
<NOTE 4>
HEAD CLEANER
ASSY
CN1
b
a
b

Fig. V2

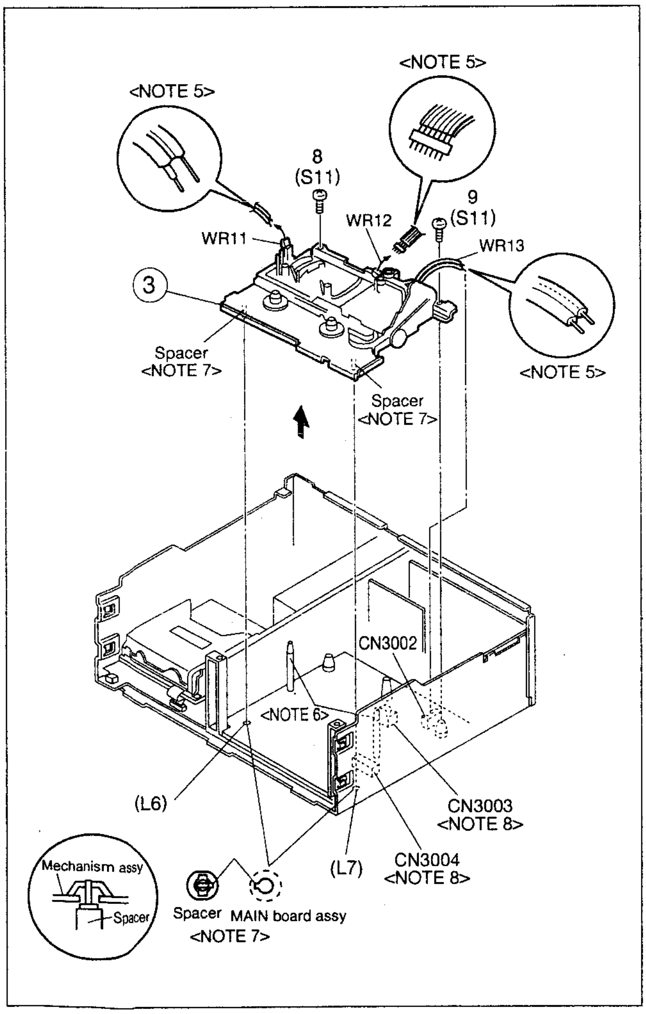

<NOTE 5>
<NOTE 5>
8
(S11)
WR12
9
(S11)
WR11
WR13
3
Spacer
<NOTE 7>
Spacer
<NOTE 7>
<NOTE 5>
CN3002
<NOTE 6>
(L6)
CN3003
<NOTE 8>
(L7)
CN3004
<NOTE 8>
Mechanism assy
Spacer
Spacer
MAIN board assy
<NOTE 7>

Fig. V3

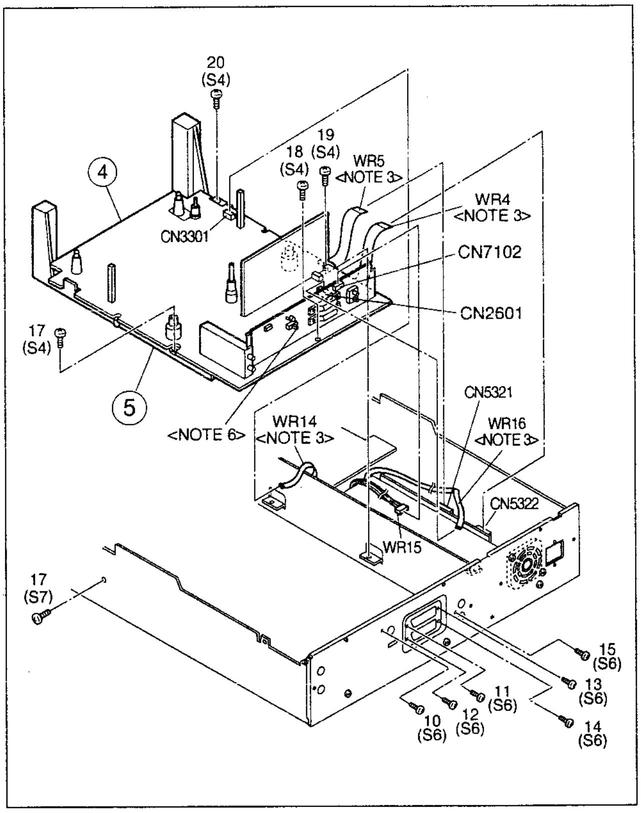

20
(S4)
19
18 (S4)
(S4)
WR5
<NOTE 3>
4
WR4
<NOTE 3>
CN7102
CN3301
CN2601
17
(S4)
5
CN5321
<NOTE 6>
WR14
<NOTE 3>
WR16
<NOTE 3>
CN5322
WR15
17
(S7)
15
(S6)
13
(S6)
11
(S6)
14
(S6)
10
(S6)
12
(S6)

Fig. V4

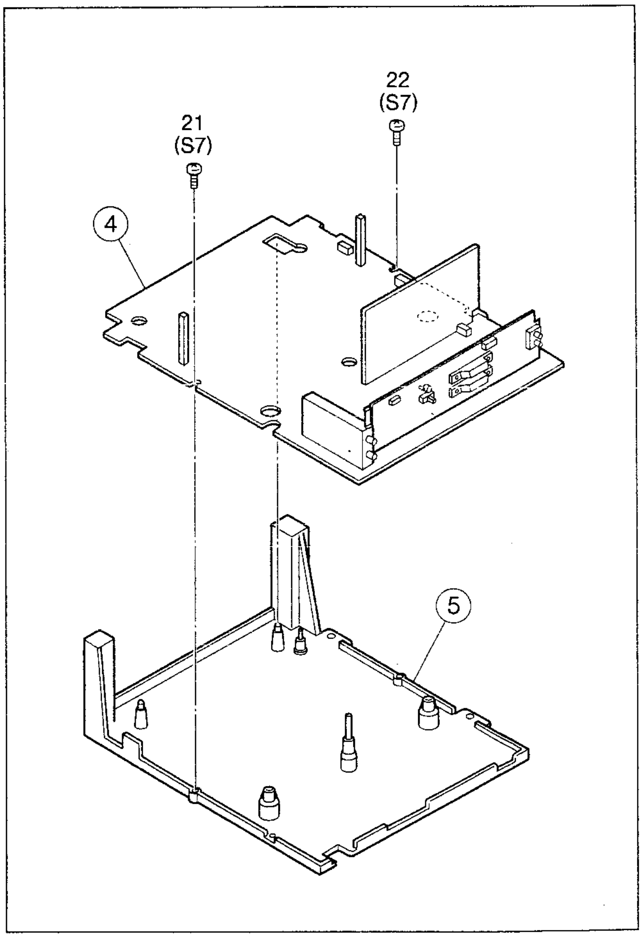

22
(S7)
21
(S7)
4
5

Fig. V5

1.7 HOW TO REMOVE THE MAJOR PARTS <DV section>

1.7.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.
However, it is required to remove the common section parts as far as ① "Top cover" and ② "Front panel assembly" in advance. (See section 1.5)

① Mechanism assembly, PRE/REC board assembly, MDA board assembly

② Cassette housing assembly

③ PRE/REC board assembly, MDA board assembly

④ Mechanism assembly

⑤ Drum assembly

⑥ DV MAIN board assembly

1.7.2 Disassembly/assembly method <DV section>

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Mechanism assembly, PRE/REC board assembly, MDA board assembly	D1	4(S4), CN1401(WR17), CN9001(WR18), CN1606(WR19), CN1601(WR7)	<NOTE 1>
②	Cassette housing assembly	D2	2(S12),2(L1),2(L2), CN1607(WR20)	—
③	PRE/REC board assembly, MDA board assembly	D3	2(S4),(S13),(S14), CN1602(WR21), CN1605(WR22), CN1603(WR23), CN1604(WR24), CN9002(WR25), Shield plate	—
④	Mechanism assembly	D4	3(S2), 2(L3)	—
⑤	Drum assembly	D5	3(S15)	<NOTE 2>
⑥	DV MAIN board assembly	D6	4(S4), CN1001(WR14), CN2101(WR16), CN1002(WR8), CN3701(WR15)	<NOTE 3>

<NOTE 1>
With due regard to operational considerations, remove the parts located on the base (2) (i.e. MECHANISM ASSEMBLY, PRE/REC, MDA BOARD ASSEMBLY etc.) together before removing the major parts.

<NOTE 2>
Take care not to scratch or damage the DRUM ASSEMBLY by the CLEANER ASSEMBLY when performing work.

<NOTE 3>
Take care not to damage the BOARD ASSEMBLY when detaching parts.

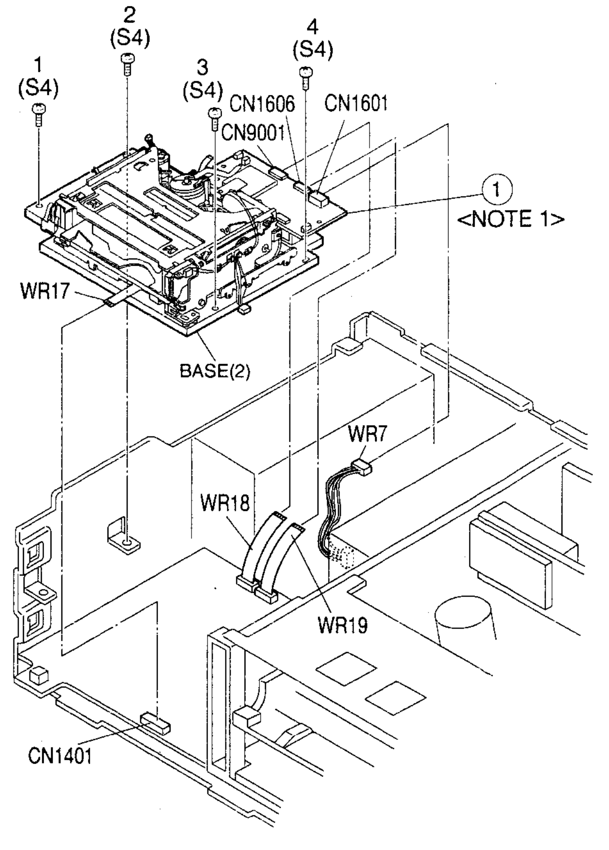


Fig. D1

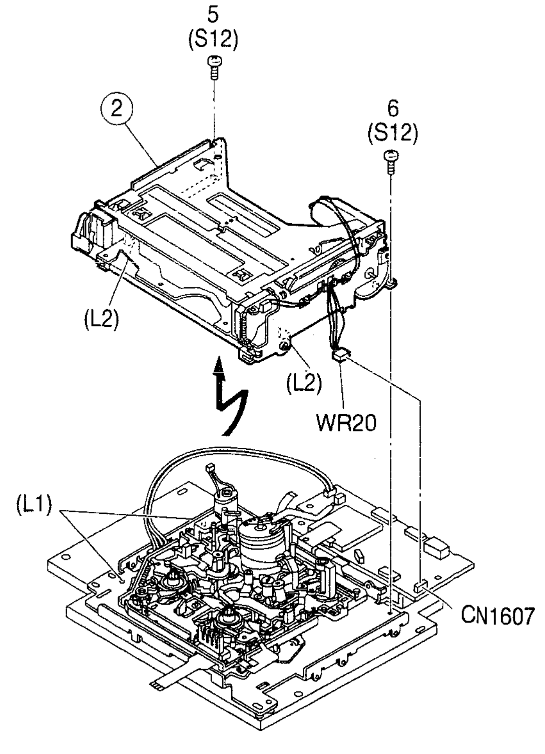


Fig. D2

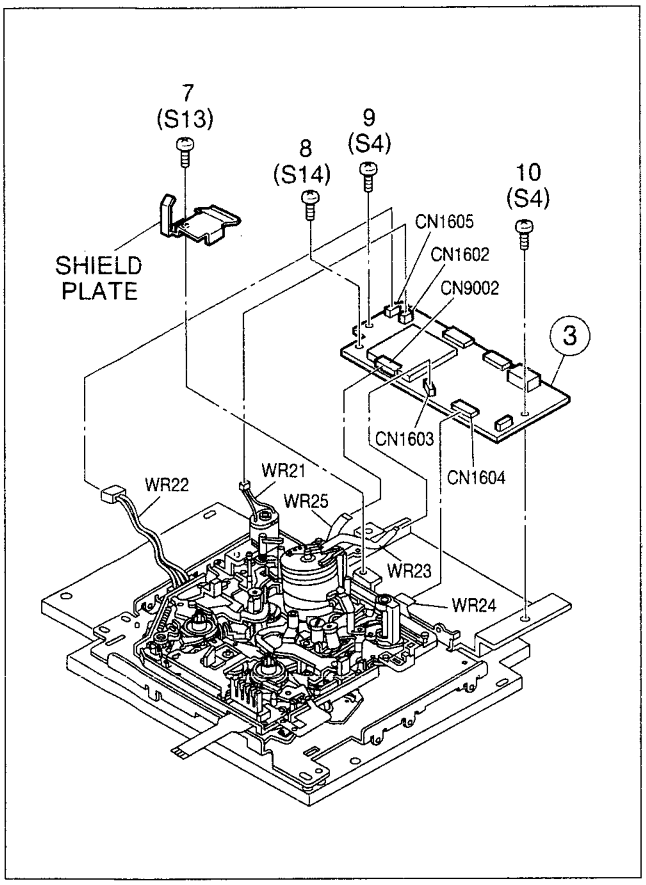

7
(S13)
8
(S14)
9
(S4)
10
(S4)
SHIELD
PLATE
CN1605
CN1602
CN9002
3
CN1603
CN1604
WR22
WR21
WR25
WR23
WR24

Fig. D3

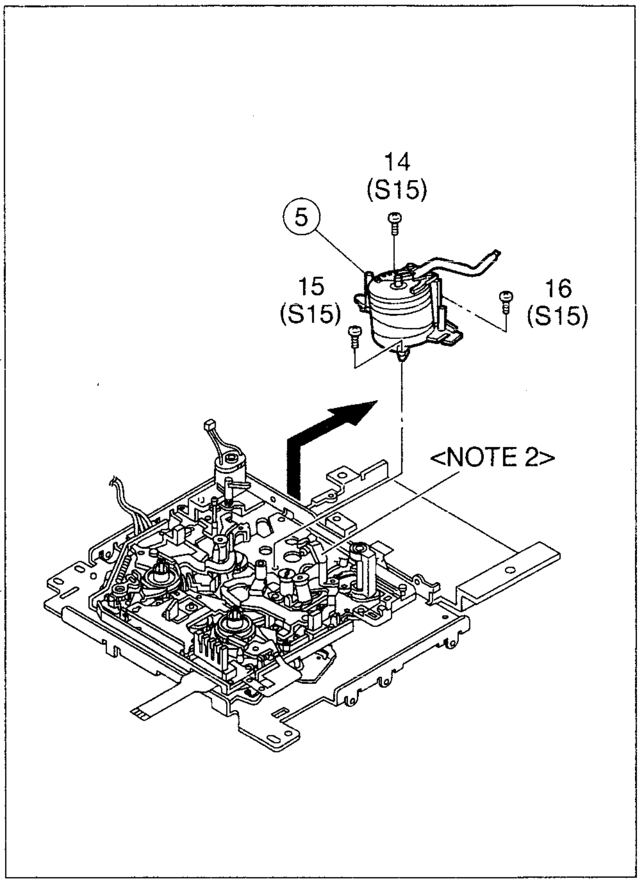

14
(S15)
5
15
(S15)
16
(S15)
<NOTE 2>

Fig. D5

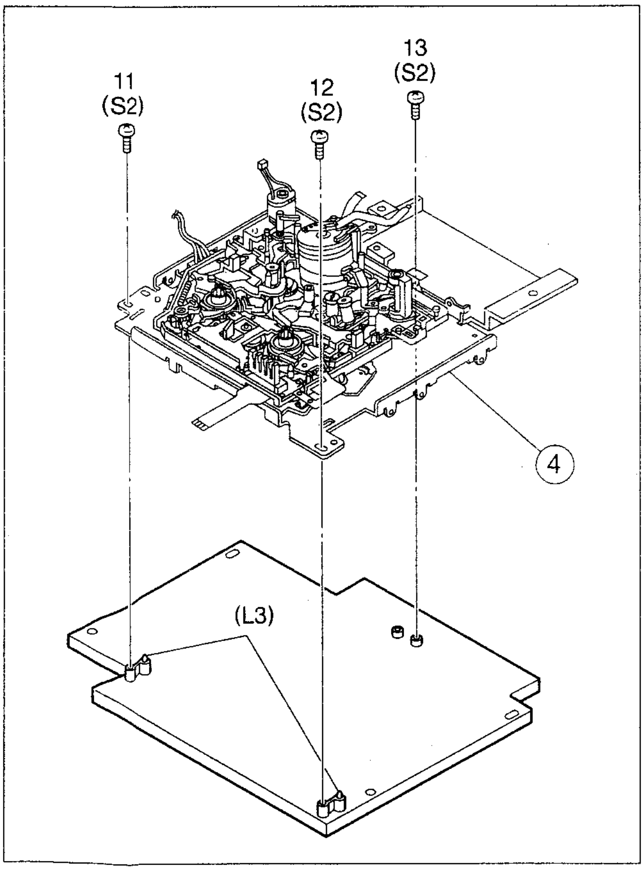

11
(S2)
12
(S2)
13
(S2)
4
(L3)

Fig. D4

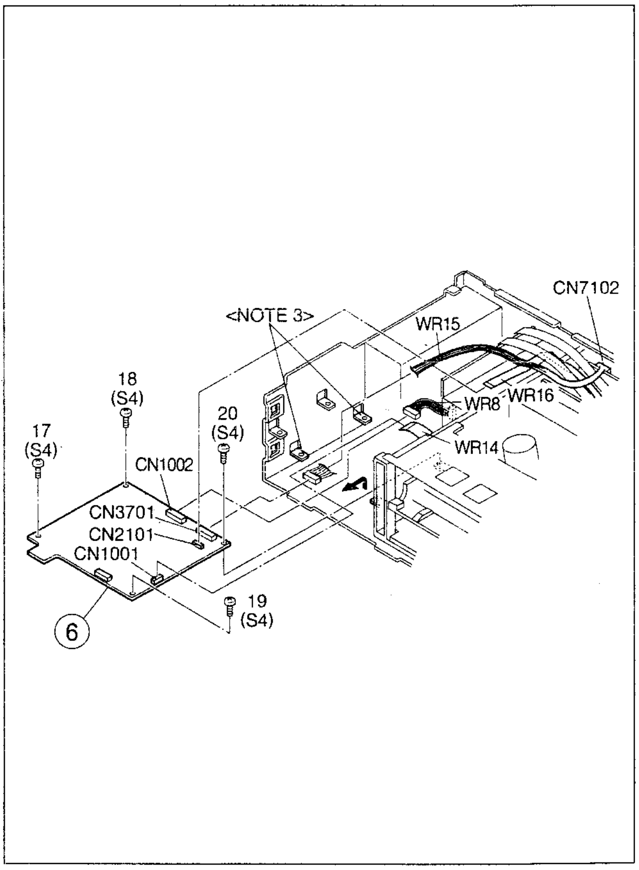

CN7102
<NOTE 3>
WR15
WR8
WR16
WR14
18
(S4)
17
(S4)
20
(S4)
CN1002
CN3701
CN2101
CN1001
6
19
(S4)

Fig. D6

1.8 SERVICE POSITIONS

The servicing locations for use in troubleshooting or servicing of the set are provided separately for the VHS and DV.

Ⓘ **SERVICE POSITIONS <VHS SIDE>**

(Ⅱ) **SERVICE POSITIONS <DV SIDE>**

1.8.1 Service position <VHS SIDE>

<Removal>

(1) Remove the TOP COVER.
(2) Remove the FRONT PANEL ASSEMBLY.
(3) Remove the MAIN BOARD ASSEMBLY together with the mechanism assembly and base (1).

		Fig. No. (Page)	Screw	Hook, etc.	Connector	Note
(1)	TOP COVER	COM1 (1-3)	7 (No.1-7)	2 + 1 (L2,3)	0	—
(2)	FRONT PANEL ASSEMBLY	COM2 (1-3)	0	8 (L3)	2 (CN7507/ CN3011)	—
(3)	MAIN BOARD ASSEMBLY (etc.)	V4 (1-6)	11 (No.10-20)	0	5 (CN3301/ CN7102/ CN5322/ CN5321/ CN2601)	NOTE1

Table 1-8-1

NOTE1 : Take care not to damage the switch (AV OUT).

< Installation >

(1) Stand up the BOTTOM CHASSIS ASSEMBLY so that the DV/REGULATOR side is in the lower position.
(2) Connect the PATCH CORD to the FPC then connect CN3301.
(3) By connecting a total of four FPCs and wires (CN7102/CN2601/CN5322/CN5321), carry out the installation so that the main board assembly comes in the upper position.

Point: • *Take care that the FPCs and wires are not subjected to stress in this positioning.*
• *Remove the base (1) as required.*

(4) Connect the PATCH CORDS to the two FPCs of the FRONT PANEL ASSEMBLY, then connect the CORDS to the CN7507/CN3011.

For the PATCH CORD is required, see Table 1-8-3.

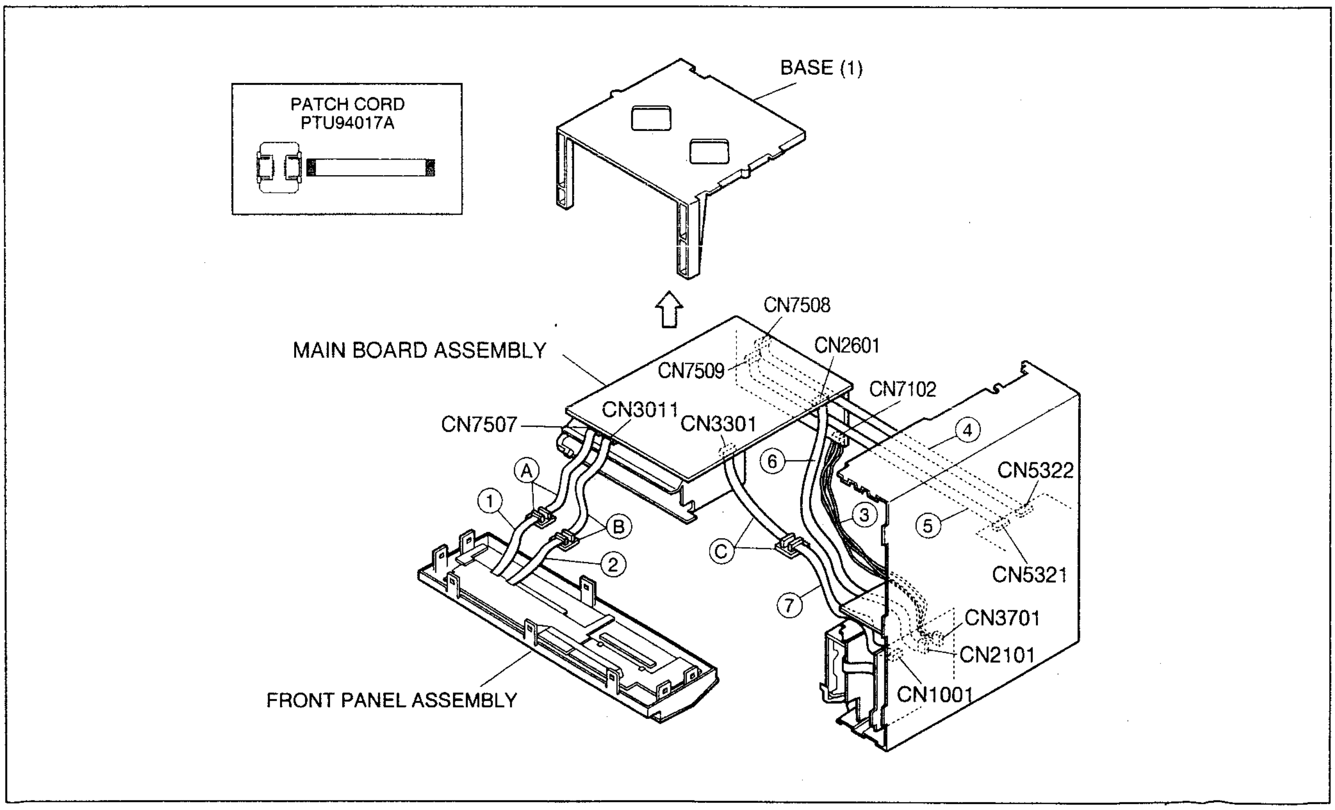

PATCH CORD
PTU94017A
BASE (1)
CN7508
MAIN BOARD ASSEMBLY
CN7509
CN2601
CN7102
CN3011
CN3301
CN7507
④
CN5322
⑥
Ⓐ
①
③
⑤
Ⓑ
②
Ⓒ
CN5321
⑦
CN3701
CN2101
CN1001
FRONT PANEL ASSEMBLY

Fig. 1-8-1 Service position <VHS side>

1.8.2 Service position <DV SIDE>

<Removal>

(1) Remove the TOP COVER.
(2) Remove the FRONT PANEL ASSEMBLY.
(3) Remove the mechanism assembly (DV side) together with the base (2).
(4) Remove the DV MAIN BOARD ASSEMBLY.

NOTE 2: *Place an insulation sheet on the mechanism assembly (VHS side), then remove the DV MAIN BOARD ASSEMBLY and place it on the insulation sheet.*
When removing the DV MAIN BOARD ASSEMBLY, only remove a connector CN1001 out of four.
Take care not to damage the parts during operating.

		Fig. No. (Page)	Screw	Hook, etc.	Connector	Note
(1)	TOP COVER	COM1 (1-3)	7 (No.1-7)	2 + 1 (L2,3)	0	—
(2)	FRONT PANEL ASSEMBLY	COM2 (1-3)	0	8 (L3)	2 (CN7507/ CN3011)	—
(3)	Mechanism (DV SIDE)/ BASE (2)	D1 (1-7)	4 (No.1-4)	0	4 (CN1401/ CN9001/ CN1606/ CN1601)	—
(4)	DV MAIN BOARD ASSEMBLY	D6 (1-8)	4 (No.17-20)	0	1 (CN1001)	NOTE2

Table 1-8-2

< Installation >

For the PATCH CORDS, see Table 1-8-3.
The patch cords that are indicated in Table 1-8-3 are in one package.

(1) Connect a PATCH CORD to the FPC, and connect the end to the connector CN1001.
(2) Connect PATCH CORDS to the three connectors/FPCs (CN1606/CN9001/CN1401).
(3) Place the mechanism assembly (DV side) on the original position and connect the four wires/FPCs/connectors (CN1601/CN1606/CN9001/CN1401).
(4) Connect PATCH CORDS to the two FPCs of the FRONT PANEL ASSEMBLY, and connect the ends to the CN7507 and CN3001.

	Board to Board	Wire
Ⓐ	PTU94022-10	QUQ212-1040CG
Ⓑ	PTU94022-11	QUQ212-1140CG
Ⓒ	YTU94072-10	QUQ210-1040CG
Ⓓ	YTU94074-15	QUQ105-1540AA
Ⓔ/Ⓕ	YTU94074-20	QUQ105-2040AA

Table 1-8-3

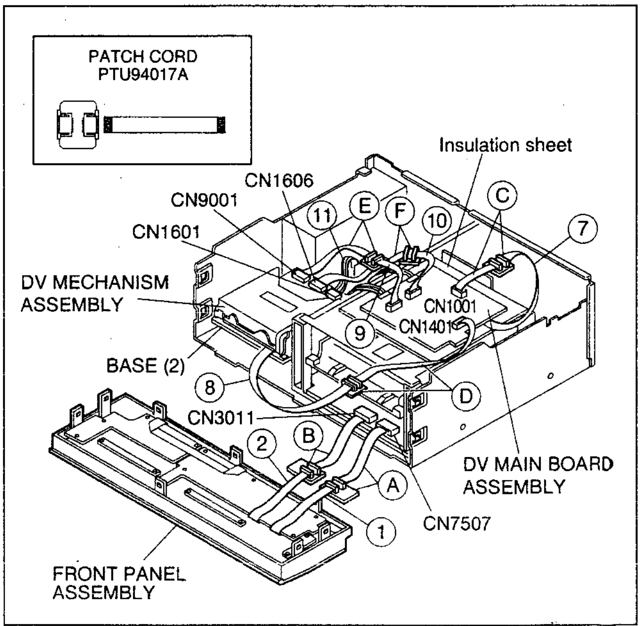


Fig. 1-8-2 Service position <DV side>

	SYMBOL	CONNECTOR (WIRE) CONNECTIONS	PIN No	PATCH CODE
Ⓘ/(II)	①	MAIN CN7507 — DISPLAY/SW CN1211	10	Ⓐ
Ⓘ/(II)	②	MAIN CN3011 — DISPLAY/SW CN1201	11	Ⓑ
Ⓘ	③	TERMINAL CN7102 — DV MAIN CN3701	9	—
Ⓘ	④	MAIN CN7508 — REGULATOR CN5322	13	—
Ⓘ	⑤	MAIN CN7509 — REGULATOR CN5321	12	—
Ⓘ	⑥	MAIN CN2601 — DV MAIN CN2101	8	—
Ⓘ/(II)	⑦	MAIN CN3301 — DV MAIN CN1001	10	Ⓒ
(II)	⑧	DV MAIN CN1401 — SENSOR	15	Ⓓ
(II)	⑨	DV PRE/REC CN9001 — DV MAIN CN3501	20	Ⓔ
(II)	⑩	DV PRE/REC CN1606 — DV MAIN CN1402	20	Ⓕ
(II)	⑪	REGULATOR CN5325 — DV PRE/REC CN1601	5	—

Table 1-8-4 Connection of Connectors

1.9 MECHANISM SERVICE POSITIONS

1.9.1 Summary

This set incorporates a Mechanism Service mode, which makes it possible to check the mechanism mode without loading a cassette tape.

NOTES: • *The Mechanism Service mode is applicable only to the mechanism assembly in the VHS section.*

• *Before removing major parts always refer to "HOW TO REMOVE THE MAJOR PARTS".*

1.9.2 Setting the mechanism service mode

(1) Unplug the power plug from the power outlet.
(2) Remove the top cover and front panel assembly.
(3) Remove the cassette housing assembly.
(4) Short-circuit TP1201 (TEST) and TP1202 (GND) on the Display/SW board assembly.
(5) Plug the power plug into the power outlet.
(6) Switch the power on.
After loading, the mechanism moves to position "S", which is the mechanism service position.

1.9.3 To exit from the mechanism service mode

(1) Unplug the power plug from the power outlet.
(2) Remove short-circuiting of TP1201 (TEST) and TP1202 (GND) on the Display/SW board assembly.
(3) Plug the power plug into the power outlet.
The power of the set turns on, the unloading operation occurs, the mechanism moves to position " (C-INS)" and the power turns off.
Now the Mechanism Service mode is exited.

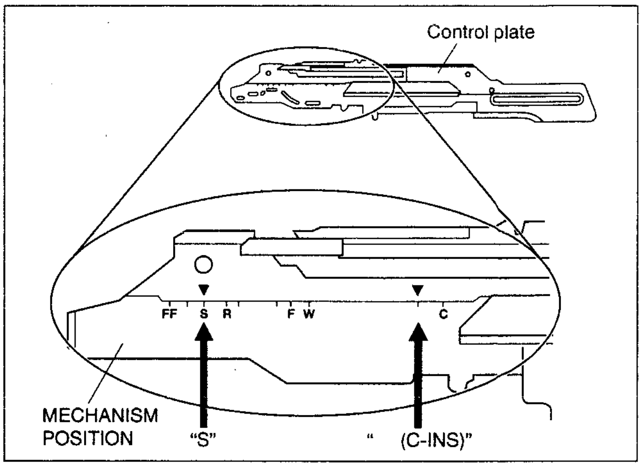

Control plate
FF
S
R
F W
C
MECHANISM
POSITION
"S"
" (C-INS)"

Fig. 1-9-1

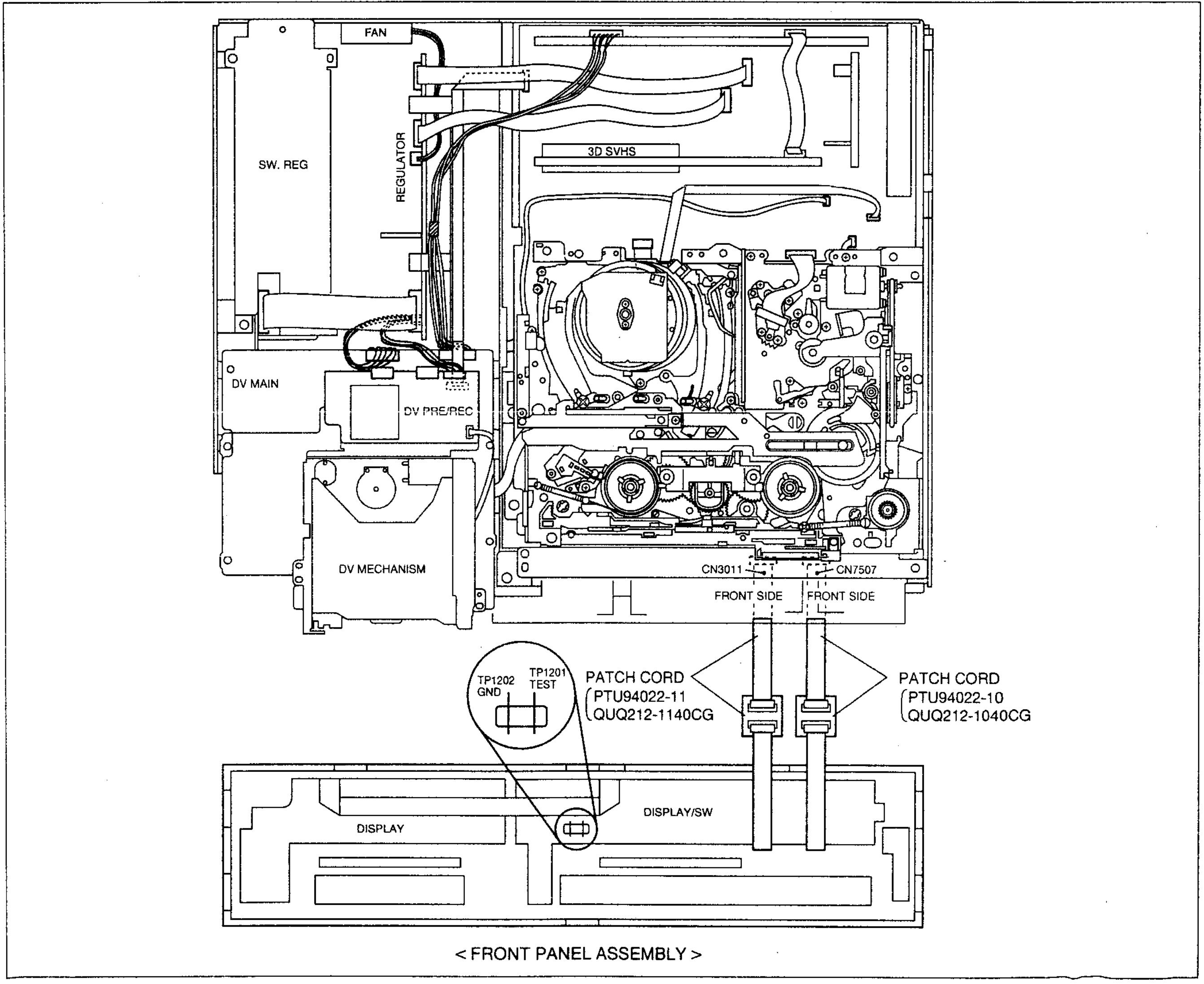
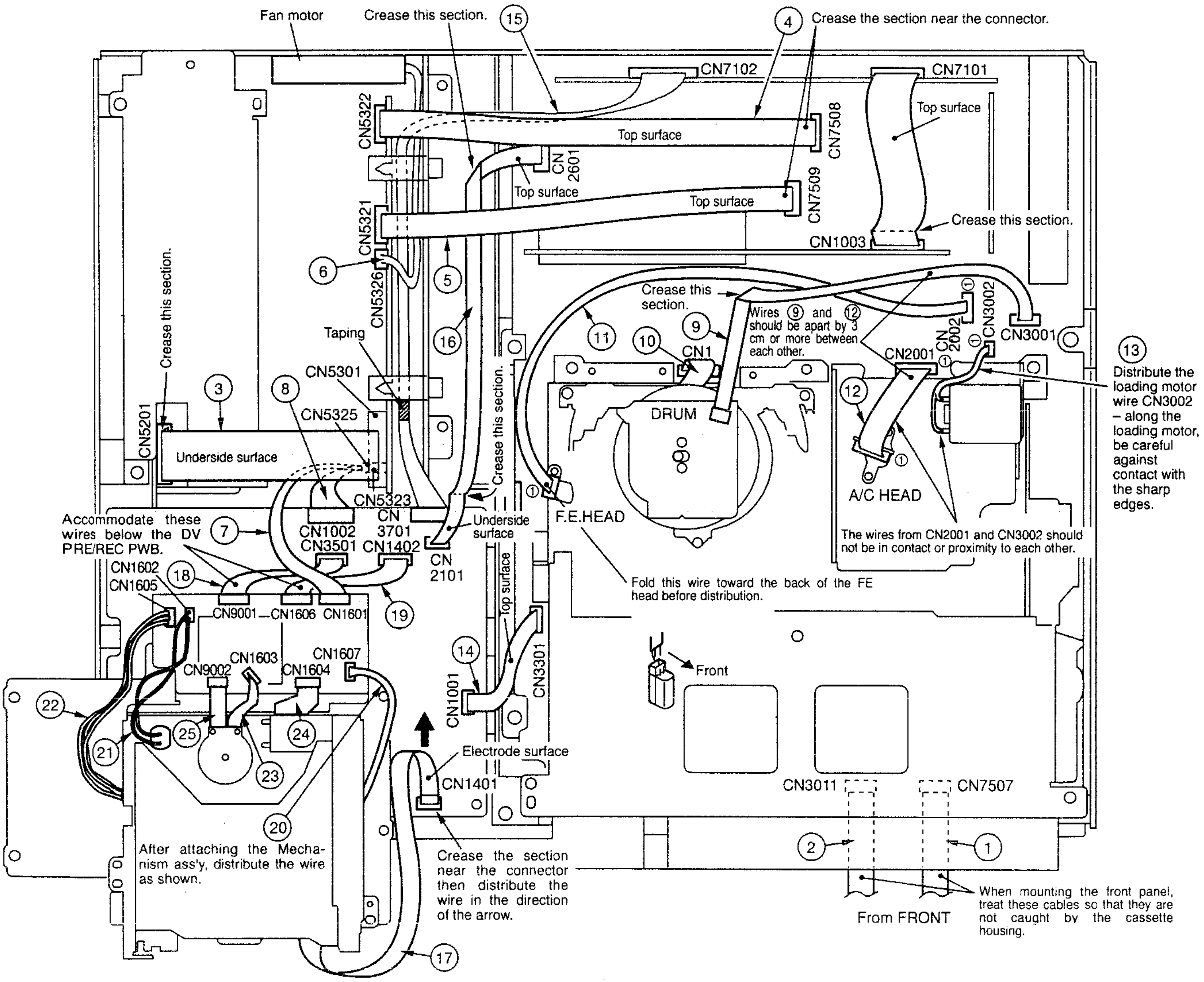

FAN
SW. REG
REGULATOR
3D SVHS
DV MAIN
DV PRE/REC
DV MECHANISM
CN3011
CN7507
FRONT SIDE
FRONT SIDE
TP1202
GND
TP1201
TEST
PATCH CORD
PTU94022-11
QUQ212-1140CG
PATCH CORD
PTU94022-10
QUQ212-1040CG
DISPLAY
DISPLAY/SW
< FRONT PANEL ASSEMBLY >

Fig. 1-9-2

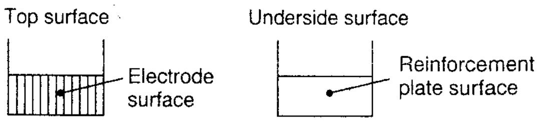
1.10 CONNECTION

TOP VIEW


Fan motor
Crease this section.
⑮
④
Crease the section near the connector.
CN7102
CN7101
CN5322
Top surface
Top surface
CN7508
CN 2601
Top surface
Top surface
CN7509
CN5321
CN1003
Crease this section.
⑥
⑤
CN5326
Crease this section.
Taping
⑯
⑪
⑩
⑨
Crease this section.
Wires ⑨ and ⑫ should be apart by 3 cm or more between each other.
CN1
CN2001
CN 2002
CN3002
CN3001
①
⑬
Distribute the loading motor wire CN3002 – along the loading motor, be careful against contact with the sharp edges.
CN5301
③
⑧
CN5201
CN5325
DRUM
⑫
Crease this section.
Underside surface
A/C HEAD
CN5323
CN 3701
F.E.HEAD
Accommodate these wires below the DV PRE/REC PWB.
⑦
CN1002
CN3501
CN1402
Underside surface
CN 2101
The wires from CN2001 and CN3002 should not be in contact or proximity to each other.
Fold this wire toward the back of the FE head before distribution.
CN1602
CN1605
⑱
CN9001
CN1606
CN1601
⑲
Top surface
⑭
CN3301
CN1001
Front
CN9002
CN1603
CN1607
CN1604
㉒
㉑
㉕
㉔
㉓
Electrode surface
CN1401
CN3011
CN7507
⑳
After attaching the Mechanism ass'y, distribute the wire as shown.
Crease the section near the connector then distribute the wire in the direction of the arrow.
②
①
From FRONT
When mounting the front panel, treat these cables so that they are not caught by the cassette housing.
⑰

[CAUTION]

1. Insert the FFC wires as shown below.


Top surface
Underside surface
Electrode surface
Reinforcement plate surface

2. Insert each FFC wire so that the side with the color bands comes on the connector's side marked ① in the diagram.
3. When distributing wires, take care not to twist the parallel

Fig. 1-10-1 Top view

Fig. No.	Symbol	Connection					Pin No.	Type (FPC/ WIRE)
		Connected point		⟷	Connected point			
①	WR1	MAIN	CN7507	⟷	DISPLAY/SW	CN1211	10	FPC
②	WR2	MAIN	CN3011	⟷	DISPLAY/SW	CN1201	11	FPC
③	WR3	REGULATOR	CN5301	⟷	SW REG	CN5201	19	FPC
④	WR4	REGULATOR	CN5322	⟷	MAIN	CN7508	13	FPC
⑤	WR5	REGULATOR	CN5321	⟷	MAIN	CN7509	12	FPC
⑥	WR6	REGULATOR	CN5326	⟷	FAN MOTOR	–	2	WIRE
⑦	WR7	REGULATOR	CN5325	⟷	DV PRE/REC	CN1601	5	WIRE
⑧	WR8	REGULATOR	CN5323	⟷	DV MAIN	CN1002	7	WIRE
⑨	WR9	DRUM MOTOR	–	⟷	MAIN	CN3001	5	FPC
⑩	WR10	MAIN	CN1	⟷	UPPER DRUM	–	13	FPC
⑪	WR11	FE HEAD	–	⟷	MAIN	CN2002	2	WIRE
⑫	WR12	A/C HEAD	CN1	⟷	MAIN	CN2001	7	WIRE
⑬	WR13	MAIN	CN3002	⟷	LOADIND MOTOR	–	2	WIRE
⑭	WR14	MAIN	CN3301	⟷	DV MAIN	CN1001	10	FPC
⑮	WR15	TERMINAL	CN7102	⟷	DV MAIN	CN3701	9	WIRE
⑯	WR16	MAIN	CN2601	⟷	DV MAIN	CN2101	8	FPC
⑰	WR17	DV MAIN	CN1401	⟷	SENSOR	–	15	FPC
⑱	WR18	DV PRE/REC	CN9001	⟷	DV MAIN	CN3501	20	FPC
⑲	WR19	DV PRE/REC	CN1606	⟷	DV MAIN	CN1402	20	FPC
⑳	WR20	DV PRE/REC	CN1607	⟷	DV HOUSING MOTOR	–	4	WIRE
㉑	WR21	DV PRE/REC	CN1602	⟷	DV LOADING MOTOR	–	2	WIRE
㉒	WR22	DV PRE/REC	CN1605	⟷	DV ENCODER	–	4	WIRE
㉓	WR23	DV PRE/REC	CN1603	⟷	DV DRUM MOTOR	–	11	FPC
㉔	WR24	DV PRE/REC	CN1604	⟷	DV CAPSTAN MOTOR	–	18	FPC
㉕	WR25	DV PRE/REC	CN9002	⟷	DV VIDEO HEAD	–	10	FPC
–	–	DV MAIN	CN1004	⟷	Jig CONN. CABLE	–	26	–

Table 1-10-1 Connection

1.11 EMERGENCY DISPLAY FUNCTION

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP (VHS, DV). With the VHS section, the status of the set and mechanism at the moment an emergency occurred can also be confirmed.

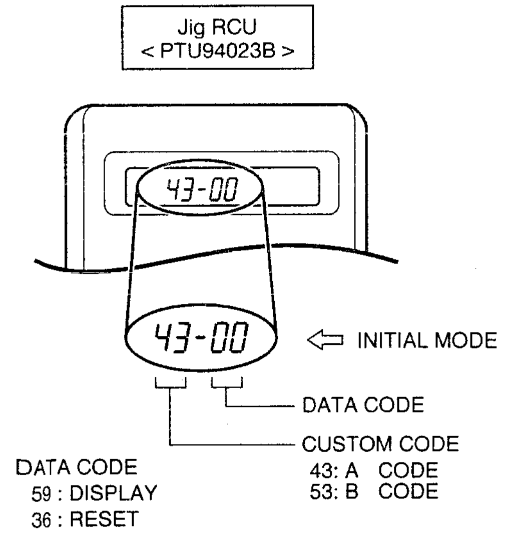
FDP display switching
[DV]

FDP display - : - - : - - Normal display
↓
E : ** : ** Emergency content display (E:Latest:Previous)
↓
E : ** : ** Emergency content display (E:Latest:Previous)

FDP display switching
[VHS]

FDP display 0 : 00 : 00 Normal display
↓
E : ** : ** Emergency content display (E:Latest:Previous)
↓
△△:□□: ×× Emergency detail display

NOTE: • *The emergency detail display shows the information on the latest emergency.*
It becomes " – – : – – : – –" when there is no latest emergency record.
• *When using the Jig RCU, set its custom code according to the set code.*



[Data transmitting method]
Depress the "⇡" (3) button after the data code is set.

Fig. 1-11-1 Jig RCU

1.11.1 Displaying the emergency information

(1) Transmit code "59" from the Jig RCU.
The FDP shows the emergency content in the form of "E:∗∗:∗∗".

Example 1 E : 01 : 03
01 — Latest emergency
03 — Previous emergency

Example 2 E : – – : – – ← No emergency record

NOTE: • **[VHS]**
For the emergency content, see "1.11.3 Emergency content description".
[DV]
For the emergency content, see "1.11.5 Emergency content description".

(2) Transmit code "59" from the Jig RCU again. (VHS)

The FDP shows the emergency detail information in the form of "△△:□□:××".
△△ : Deck operation mode at the moment of emergency
□□ : Mechanism mode at the moment of emergency
× – : Mechanism sensor information at the moment of emergency
– × : Mechanism mode position at the moment of emergency

NOTE: • *For the emergency detail information, see "1.11.4 Emergency detail description".*

(3) Transmit code "59" from the Jig RCU once again to reset the display.

1.11.2 Clearing the emergency history

NOTE: • *This procedure is valid only with VHS. With DV, the data should be cleared through PC communications.*

(1) Display the emergency history.
(2) Transmit code "36" from the Jig RCU.
(3) Reset the emergency display.

1.11.3 Emergency content description [VHS]

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in Slow/Still modes.	① The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. ② The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. ③ Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. ② The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. ③ The drum control voltage (DRUM CTL V) is not supplied to the MDA. ④ Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	① The cassette cannot be ejected due to a failure in the drive mechanism of the housing. ② When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. (Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. ③ The sensor/switch for detecting the end of ejection are not functioning normally. ④ The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). ⑤ When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). ② The capstan FG pulse did not reach the System controller CPU because; 3) The signal circuit is disconnected in the middle; 4) The FG pulse generator (MR device) of the capstans is faulty. ③ The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. ④ Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	① The SW 5 V power supply circuit is shorted with GND. ② The SW 12 V power supply circuit is shorted with GND.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	① The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. ② The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. ③ The power to a reel sensor is not supplied.
EU1: Head clog *warning*	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:U1" FDP : "U:01" OSD : "Try cleaning tape." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-11-1

1.11.4 Emergency detail description

[FDP display] △△:□□:×× (Deck operation mode: Mechanism operation mode: Mechanism sensor information & mechanism mode position)

△△: Deck Operation Mode

△△	**Deck Operation Mode**
00	STOP with pinch roller pressure off (or tape present with P.OFF)
01	STOP with pinch roller pressure on
04	PLAY
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH (variable speed)
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE

Table 1-11-2

□□: Mechanism Operation Mode

□□	**Mechanism Operation Mode**
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG

Table 1-11-3

× – : Mechanism Sensor Information

× –	Mechanism Sensor Information			
	CASS SW	**REC SAFETY SW**	**START SENSOR**	**END SENSOR**
0-	ON(Cassette present)	OFF(Tab broken)	on	on
1-	ON(Cassette present)	OFF(Tab broken)	on	off
2-	ON(Cassette present)	OFF(Tab broken)	off	on
3-	ON(Cassette present)	OFF(Tab broken)	off	off
4-	ON(Cassette present)	ON(Tab present)	on	on
5-	ON(Cassette present)	ON(Tab present)	on	off
6-	ON(Cassette present)	ON(Tab present)	off	on
7-	ON(Cassette present)	ON(Tab present)	off	off
8-	OFF(Cassette absent)	OFF(Tab broken)	on	on
9-	OFF(Cassette absent)	OFF(Tab broken)	on	off
A-	OFF(Cassette absent)	OFF(Tab broken)	off	on
B-	OFF(Cassette absent)	OFF(Tab broken)	off	off
C-	OFF(Cassette absent)	ON(Tab present)	on	on
D-	OFF(Cassette absent)	ON(Tab present)	on	off
E-	OFF(Cassette absent)	ON(Tab present)	off	on
F-	OFF(Cassette absent)	ON(Tab present)	off	off

Table 1-11-4

– × : Mechanism Mode Position

– ×	**Mechanism Mode Position**
-0	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
-1	Tape being loaded/unloaded (When the pole base is located on the front side of the position jist beside the drum)
-2	STOP with pinch roller pressure off
-3	REV,REV STILL/SLOW position
-4	EJECT position, U/L STOP position
-5	FWD, FWD STILL/SLOW position
-6	FF/REW position
-7	Intermediate position during transition between other mechanism modes

NOTE: *As the display is always "-7" at any intermediate position between mechanism mode, the position of transitory emergency may sometimes not be locatable.*

Table 1-11-5

< Mechanism mode >

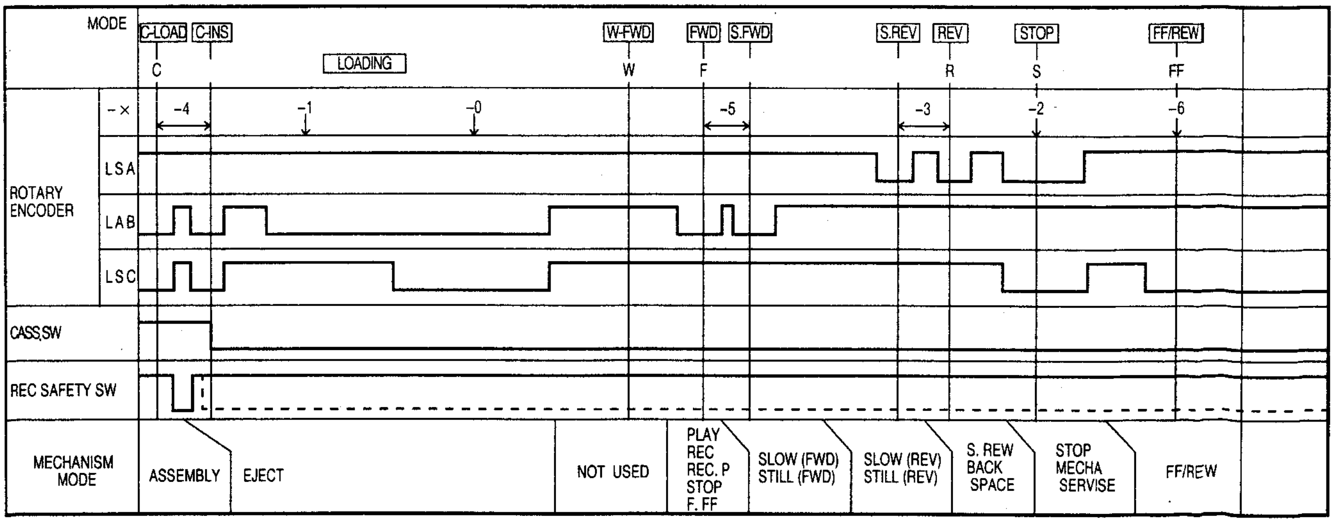

MODE
C-LOAD
C-INS
LOADING
W-FWD
FWD
S.FWD
S.REV
REV
STOP
FF/REW
C
W
F
R
S
FF
-×
-4
-1
-0
-5
-3
-2
-6
ROTARY ENCODER
LSA
LAB
LSC
CASS.SW
REC SAFETY SW
MECHANISM MODE
ASSEMBLY
EJECT
NOT USED
PLAY REC REC. P STOP F. FF
SLOW (FWD) STILL (FWD)
SLOW (REV) STILL (REV)
S. REW BACK SPACE
STOP MECHA SERVISE
FF/REW

Table 1-11-6

1.11.5 Emergency content description [DV]

E. VF DISPALY	Emergency mode	Symptom	Surveillance mode	Mode to shift
E01	LOADING	The mechanism does not shift to the next mode (In the LOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	LOADING	Mode continues
E02	UNLOADING	The mechanism does not shift to the next mode (In the UNLOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	UNLOADING	Mode continues
E03	REEL FG	No. REEL FG (TU or SUP) signal is input for more than 4 seconds in the mode that the reel must rotate.	When reel is rotating	STOP
E04	DRUM FG	No DRUM FG signal is input for more than 3 seconds in the mode that the drum motor must rotate.	When drum is rotating	STOP
—	—	—	—	—
E06	CAPSTAN FG	No CAPSTAN FG signal is input for more than 1.5 seconds in the mode than the capstan motor must rotate (the pinch roller is pressed to the capstan).	When capstan is rotating (pinch roller is pressed to it).	STOP

Table 1-11-7

SECTION 2
MECHANISM ADJUSTMENT (VHS)

2.1 PREPARATION

2.1.1 Precautions

(1) Disconnect VCR from AC power before soldering.
(2) Avoid imparting stress to wires when disengaging connectors.
(3) Determine and correct the cause of difficulty before proceeding to adjustments.Do not disturb settings unnecessarily.
(4) Use care not to damage tabs,claws,etc during repairs.
(5) Install the cassette housing assembly only when the mechanism is in the MECHANISM ASSEMBLING MODE position. (See 2.4.2.)
(6) When reattaching the front panel assembly, make sure that the door opener of the cassette housing assembly is lowered in position prior to the reinstallation. (See SECTION 1 DISASSEMBLY.)

2.1.2 Check without cassette housing assembly

Mechanism operations can be observed easily by removing the cassette housing assembly. Use the MECHANISM SERVICE MODE. (See SECTION 1 DISASSEMBLY.)

2.1.3 Manual removal of loaded tape

When the deck enters the emergency mode with cassette tape loaded and it can not be ejected by pressing the EJECT button,take out of the cassette tape according to the following procedure.

(1) Disconnect the power cord from AC outlet then take out the Top cover and Front panel assembly.
(2) Turn the loading motor on the Mechanism assembly by hand in the unloading direction to where the pole base assembly (supply and take up) is positioned below the cassette tape.At that time, pay careful attention to the tape not to get soiled with grease.
(3) Take out 4 screws of the cassette housing assembly.(See SECTION 1 DISASSEMBLY.)
(4) Remove the cassette housing with slackened tape and guard panel of cassette.
(5) Wind up the tape by turning the reel hub(either supply or take up side for convenience) from the bottom of the cassette,and remove the cassette tape.

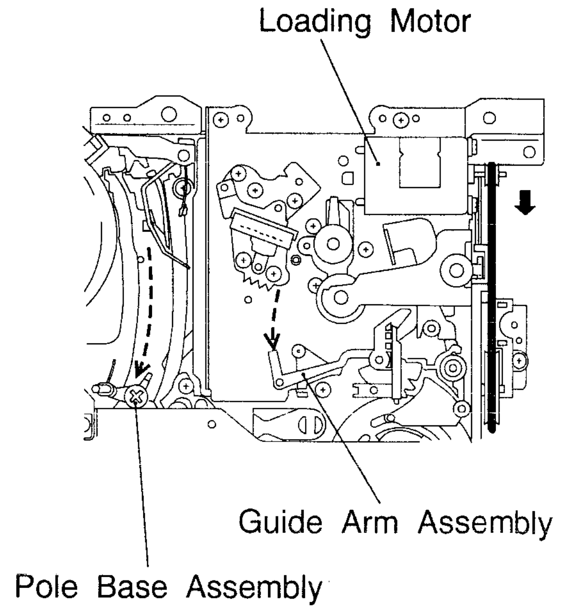


Fig. 2-1-1

2.1.4 Test Equipment

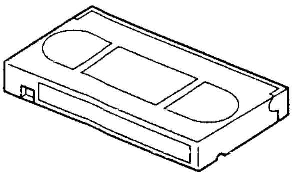
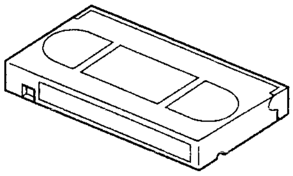
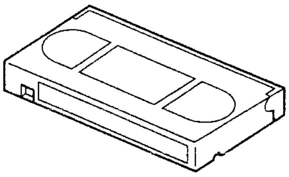
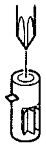
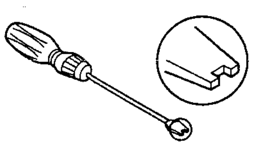
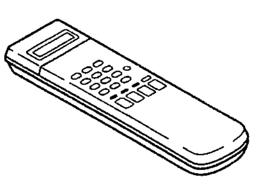
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head positioning tool PTU94010
			
Roller driver PTU94002	Jig RCU PTU94023B		
			

Table 2-1-1 Test equipment

2.2 MAIN MECHANISM PARTS

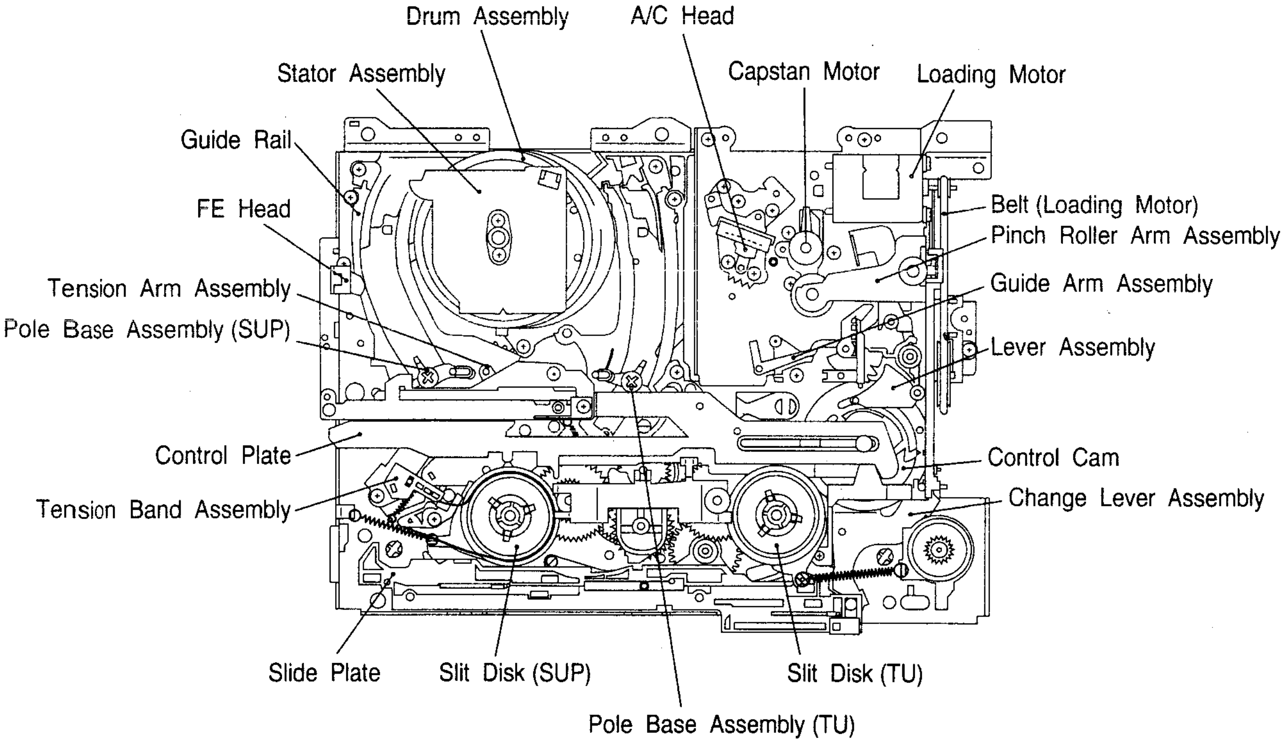

Drum Assembly
A/C Head
Stator Assembly
Capstan Motor
Loading Motor
Guide Rail
FE Head
Tension Arm Assembly
Pole Base Assembly (SUP)
Belt (Loading Motor)
Pinch Roller Arm Assembly
Guide Arm Assembly
Lever Assembly
Control Plate
Tension Band Assembly
Control Cam
Change Lever Assembly
Slide Plate
Slit Disk (SUP)
Slit Disk (TU)
Pole Base Assembly (TU)

Fig. 2-2-1 Top view of mechanism assembly

2.2.1 Cleaning

Periodic cleaning of the tape transport system is desirable,but usually not feasible in practice.Therefore,perform cleaning when a set is brought in for repairs or maintenance. Contamination of the video heads,tape guides and brush can detract from playback picture quality and in extreme cases,even damage the tape.For cleaning,use a finemesh cotton cloth(about the texture of a white dress-shirt) moistened in alcohol. It is recomended to also clean the tape tension posts and capstan.

- To clean the video heads,press the moistened cloth gently against the upper drum with fingertip and turn the drum by hand.
- Do not use a vertical stroke,as this may damage the heads.

2.2.2 Lubrication

Oil and grease do not normally require periodic replenishing. Apply only when replacing lubricated parts(also clean and replace lubrication of mating parts if soiled). For parts and points to apply oil and grease, refer to the exploded views of the mechanism assembly. Before oiling,clean with alcohol.Apply one or two drops of oil. Avoid excess oil.

1. Table 2-2-1 indicates the oil and grease used in this set. Use these or recommended locally available equivalents.

Category	Part No.
Oil	COSMO-HV56
Grease	KYODO-SH-P

Table 2-2-1

2. Grease is not required for a replacement cassette housing assembly,as this has been applied at the factory.

NOTE : *Stir grease that has been stored for an extended period.*

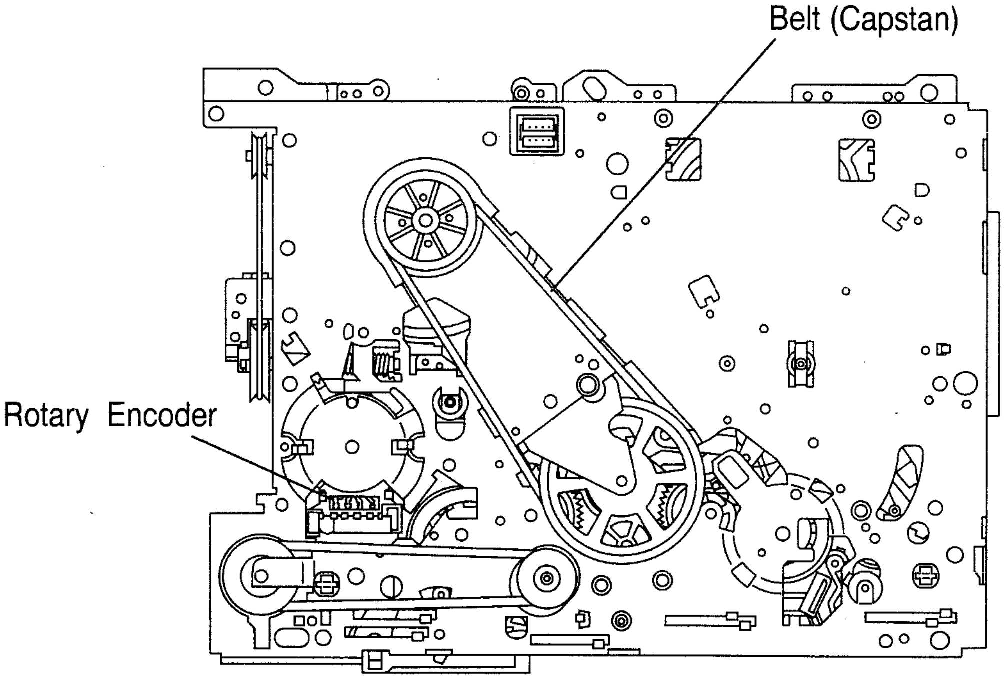


Fig. 2-2-2 Bottom view of mechanism assembly

2.3 INSPECTION AND MAINTENANCE

This product employs rotary and moving parts which wear out in the course of usage.Periodic inspection, cleaning, lubrication and maintenance are therefore important for ensuring maximum performance. Worn parts must also be replaced as and when required.

2.3.1 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum motor assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Slit disk (supply, take up)		○
	Clutch unit (supply, take up)		○
	Worm gear assembly		○
	Control plate		○
	Slide plate		○
Other	Brush	★○	★○
	Tension band assembly	○	○
	Rotary encoder		○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-3-1

2.4 DISASSEMBLY/ASSEMBLY PROCEDURE OF MECHANISM

2.4.1 Precaution before disassembling mechanism

This mechanism has an exclusive operation mode provided for disassembling and installation of the mechanism (MECHANISM ASSEMBLING MODE), and it is suggested to set the mechanism to this mode before disassembly and installation.The exclusive mechanism operation mode is not generally used and becomes available by manual setting only. Then this procedure starts with the condition that the cabinet parts and cassette housing assembly have been removed.

2.4.2 How to set the exclusive mechanism operation mode (MECHANISM ASSEMBLING MODE)

(1) Turn the loading motor belt by hand.
(2) Confirm that the hole of the control cam are aligned to the deck hole as shown in Fig.2-4-1.

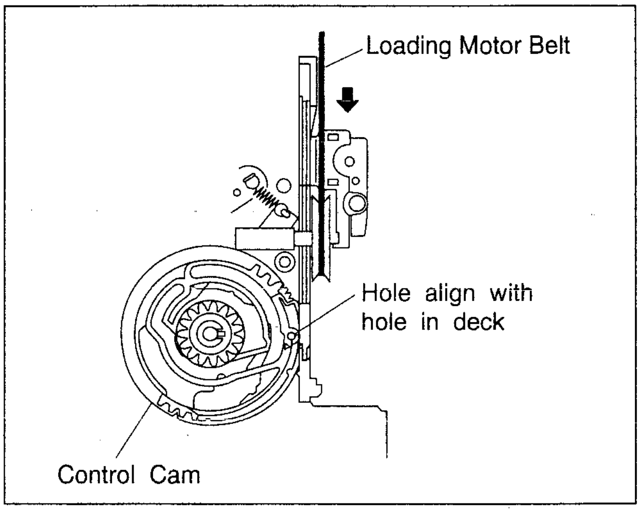


Fig. 2-4-1

2.5 MAIN PARTS REPLACEMENT OF MECHANISM

2.5.1 Pinch Roller Arm Assembly

(1) Remove the slit washer.
(2) Lift the pinch roller arm assembly, and pull out it while pushing the pinch plate toward outside.

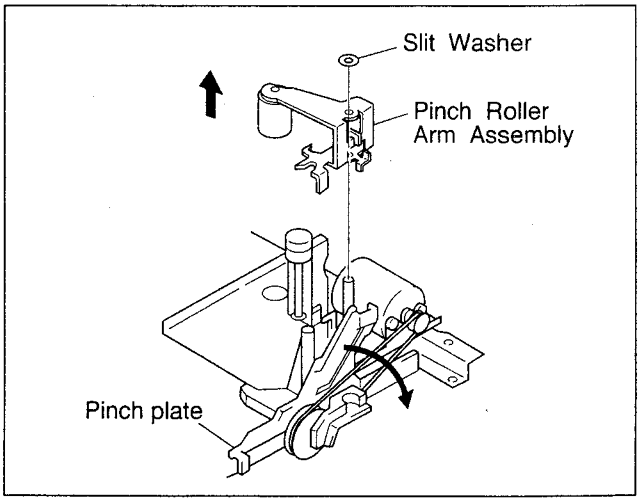


Fig.2-5-1

2.5.2 A/C Head

1. Removal

(1) Take out the 2 screws (A).

(2) Remove the A/C head with head base.

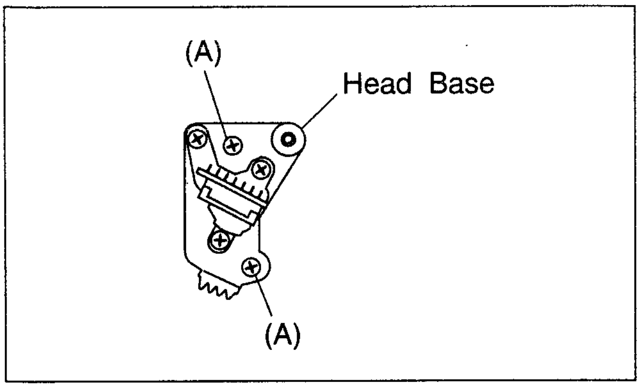

(A)
Head Base
(A)

Fig.2-5-2

(3) When replacing the A/C head only,remove the 3 screws (B), use care not to misplace the 3 springs.

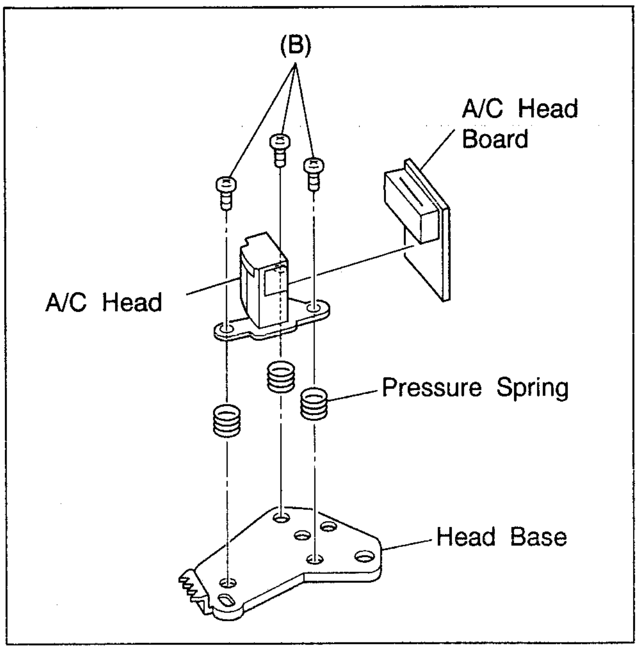

(B)
A/C Head Board
A/C Head
Pressure Spring
Head Base

Fig.2-5-3

2. Installation

(1) Temporarily set tne A/C head height as indicated in Fig. 2-5-4.

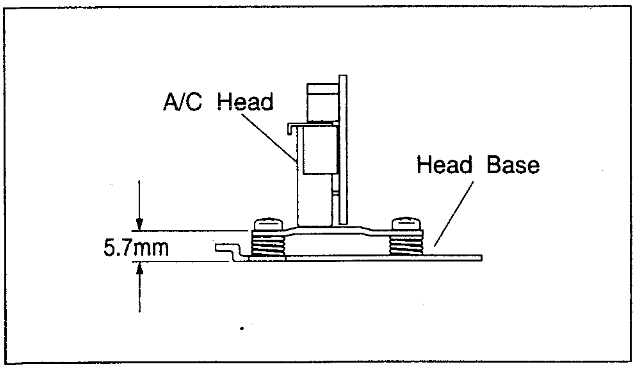

A/C Head
Head Base
5.7mm

Fig.2-5-4

NOTES:

- *It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.*
- *Perform interchangeability adjustments after electrical adjustments.*

2.5.3 Pinch Plate

1. Removal

(1) Disengage the 2 claws, then remove the pinch plate.

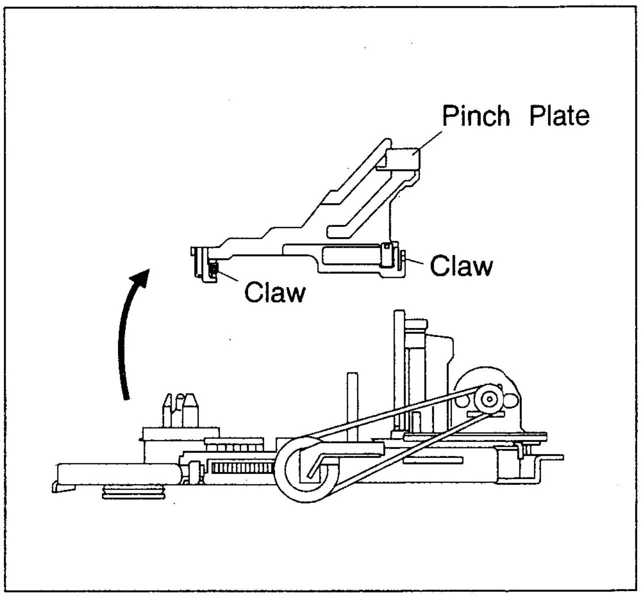

Pinch Plate
Claw
Claw

Fig.2-5-5

2. Installation

(1) When installing the pinch plate,align rack of the pinch plate and triangle mark of the control cam as indicated in Fig. 2-5-6.

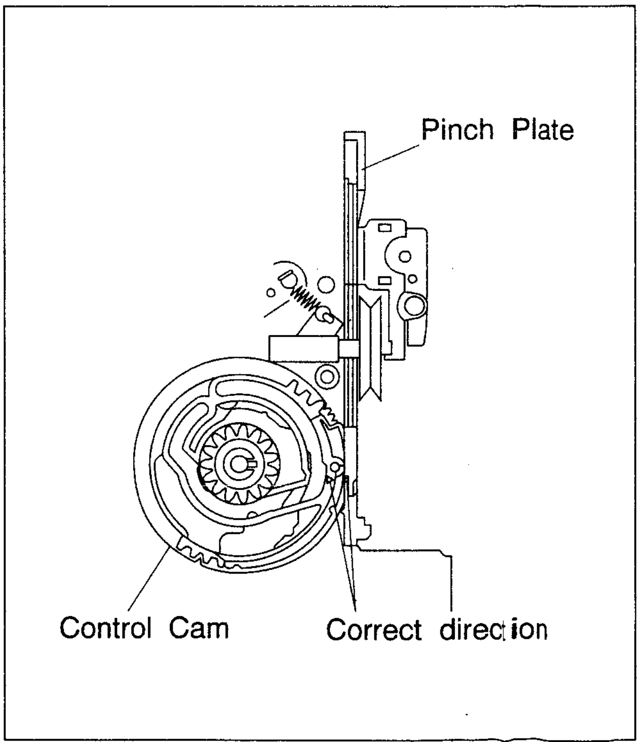

Pinch Plate
Control Cam
Correct direction

Fig. 2-5-6

2.5.4 Loading Motor

(1) Remove the belt from the worm gear assembly.

(2) Take out the 2 screws (A) and then remove the loading motor.

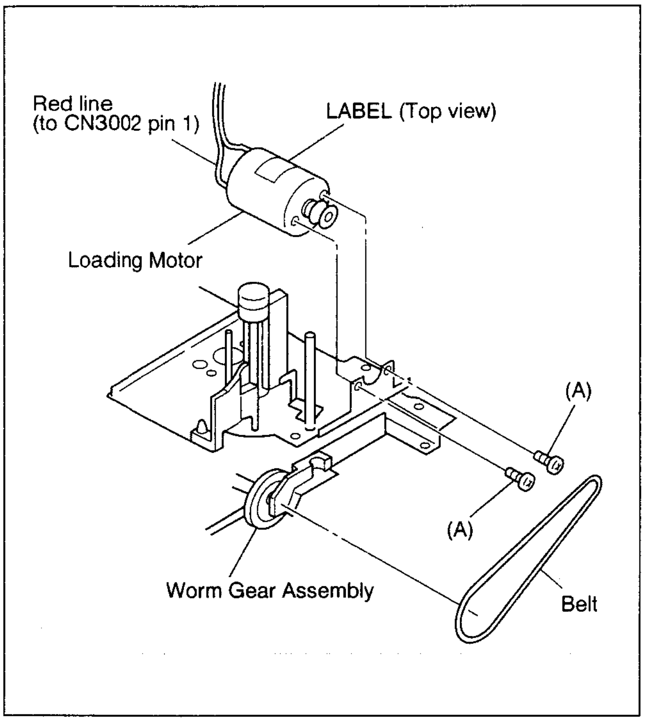

Red line
(to CN3002 pin 1)
LABEL (Top view)
Loading Motor
(A)
(A)
Worm Gear Assembly
Belt

Fig.2-5-7

NOTE: *When installing the loading motor, hold it so that the label faces upward. Also take care with the wire colors.*

2.5.5 Lever Assembly, Sub Deck Assembly, Capstan Motor

(1) First remove the belt from the rear side (capstans) of the mechanism assembly.

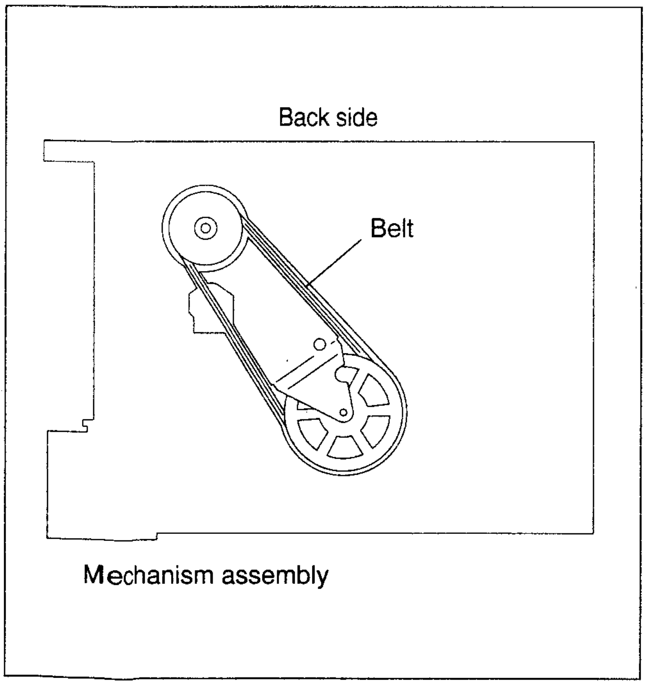

Back side
Belt
Mechanism assembly

Fig.2-5-8

(2) Take out the slit washer, then remove the lever assembly.

(3) Take out the 3 screws (A), then remove the capstan motor and sub deck assembly together.

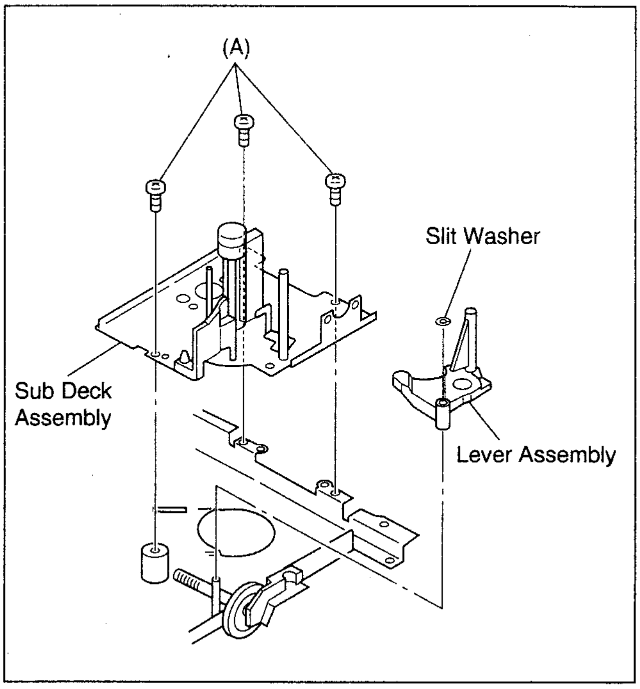

(A)
Slit Washer
Sub Deck Assembly
Lever Assembly

Fig.2-5-9

(4) Take out the 3 screws (B), then remove the capstan motor from the sub deck assembly.

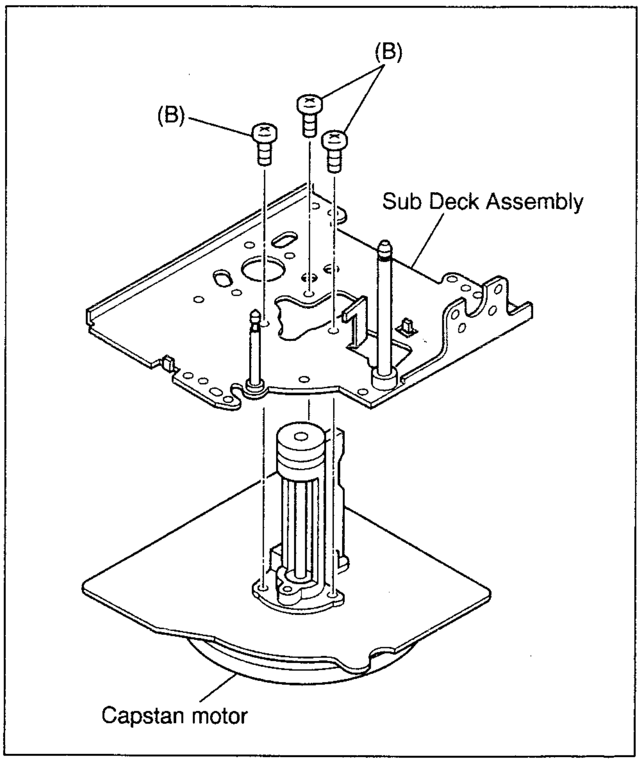

(B)
(B)
Sub Deck Assembly
Capstan motor

Fig.2-5-10

NOTE: *Before removing the capstan brake assembly, it is required to first remove the worm gear assembly and the control cam.*

2.5.6 Control Bracket

(1) Take out the screw (A) and screw (B).
(2) Remove the control bracket.

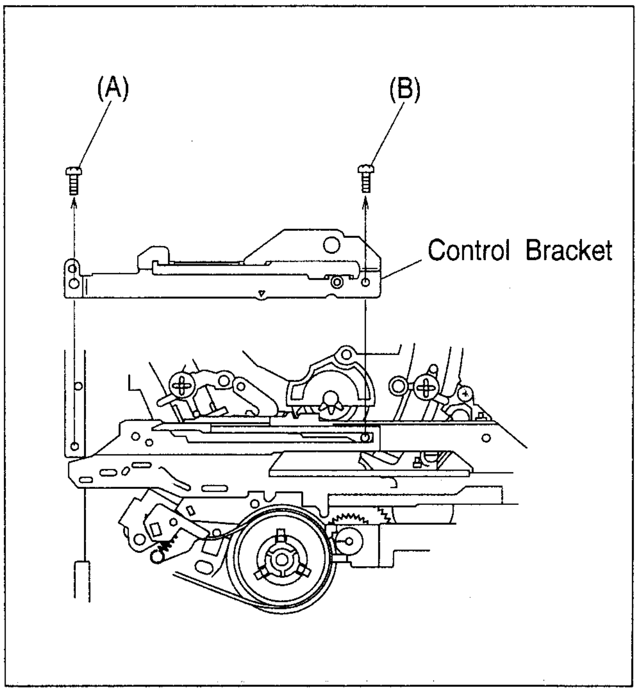

(A)
(B)
Control Bracket

Fig.2-5-11

2.5.7 Slit Disk (Take up)

(1) Take out the slit washer.
(2) Remove the slite disk (take up).

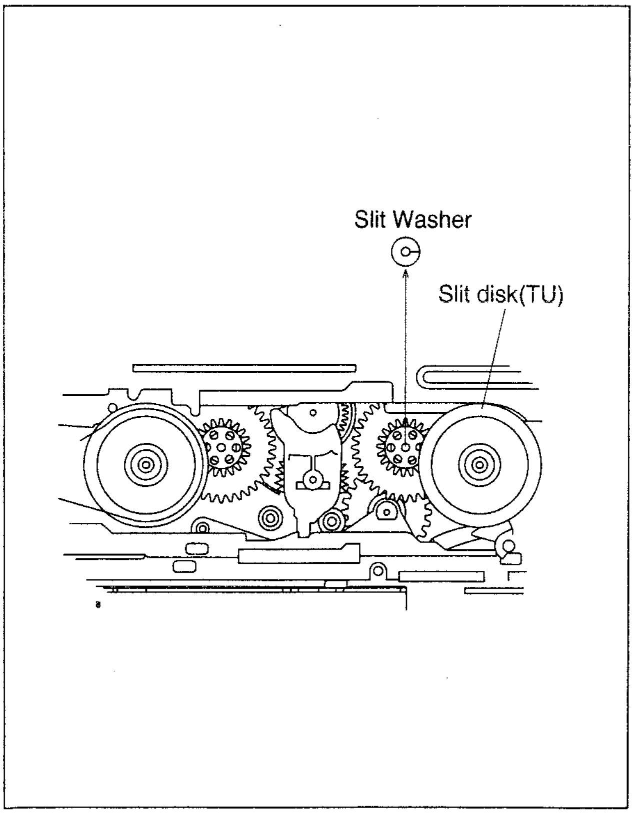

Slit Washer
Slit disk(TU)

Fig.2-5-12

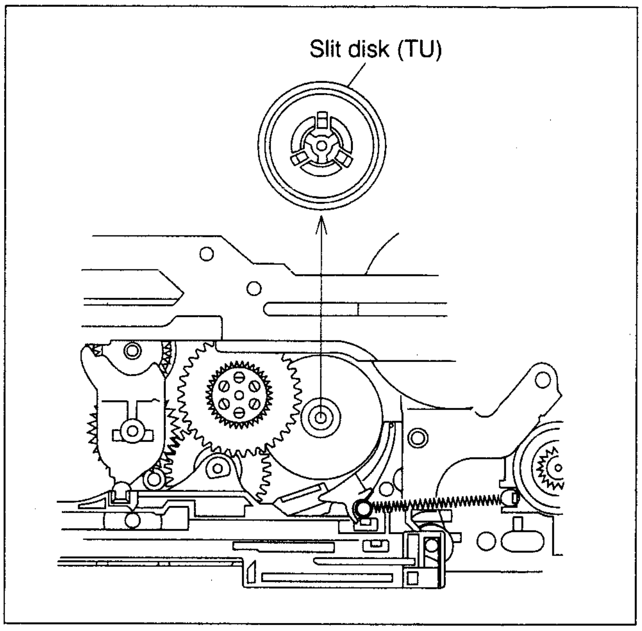

Slit disk (TU)

Fig.2-5-13

2.5.8 Control Plate

(1) Take out the slit washer, disengage the 2 hooks while lifting the control cam side of the control plate, and remove the control plate.

NOTE 1 : *After removing the control plate, be careful not to turn the main deck assembly upside down. Otherwise, parts such as the idler lever and clutch unit (take up) may slip out.*

NOTE 2 : *After removing the control plate, the parts shown in the following figure can be removed. The encircled numbers indicate the removal sequence.*

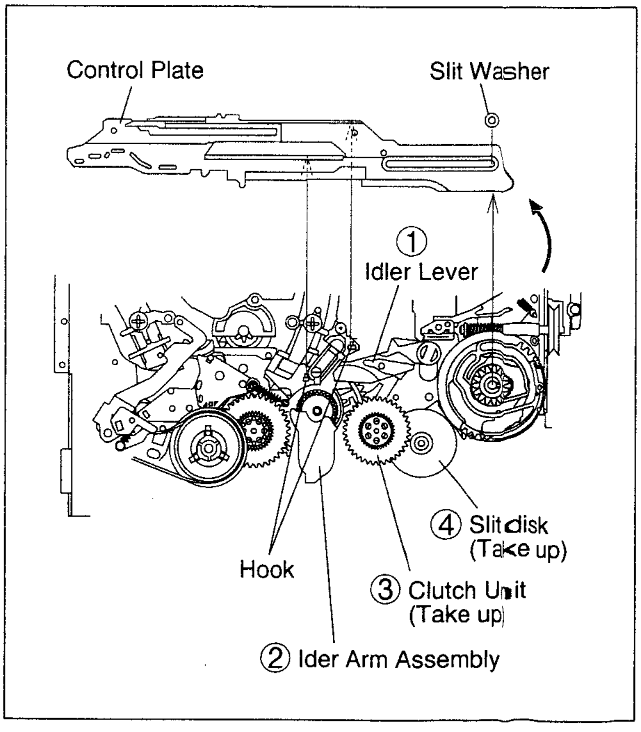

Control Plate
Slit Washer
① Idler Lever
Hook
② Ider Arm Assembly
③ Clutch Unit (Take up)
④ Slit disk (Take up)

Fig.2-5-14

2.5.9 Sub Brake Assembly (Take up), Control Cam

(1) Disengage the spring of the sub-brake assembly (take up) and, while pushing the hook in the direction of the arrow, remove the sub brake assembly (take up) upward.

(2) While pushing the claw in the disengaging direction, remove the control cam.

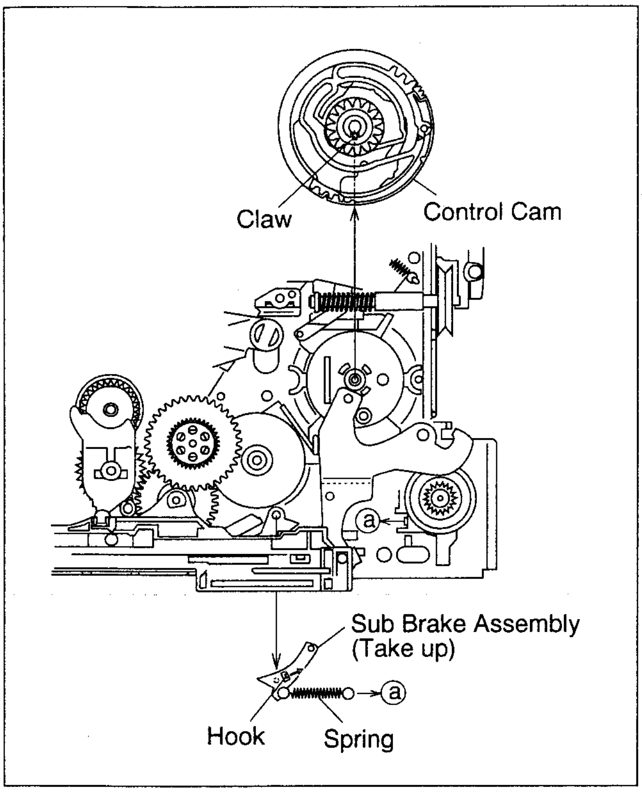

Claw
Control Cam
ⓐ
Sub Brake Assembly (Take up)
ⓐ
Hook
Spring

Fig.2-5-15

2.5.10 Slide Plate

(1) Disengage the 7 claws on the back side of the mechanism assembly by following the order from the claw on one end to that on the opposite end, then remove the slide plate.

NOTE: *After removing the slide plate, it is possible to remove the main brake assembly (take up) and the change arm assembly.*

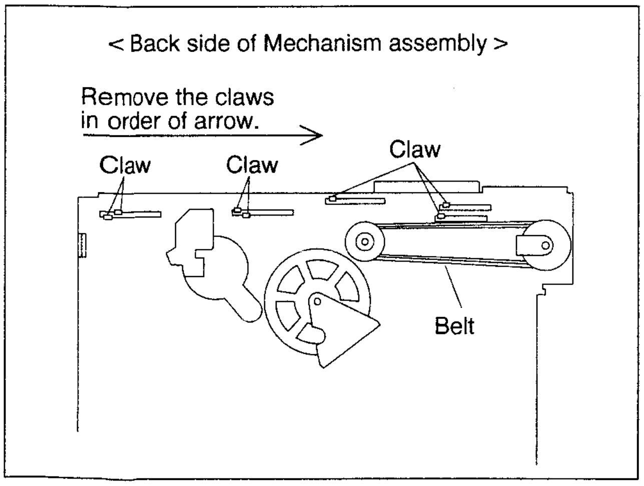

< Back side of Mechanism assembly >
Remove the claws in order of arrow.
Claw
Claw
Claw
Belt

Fig. 2-5-16

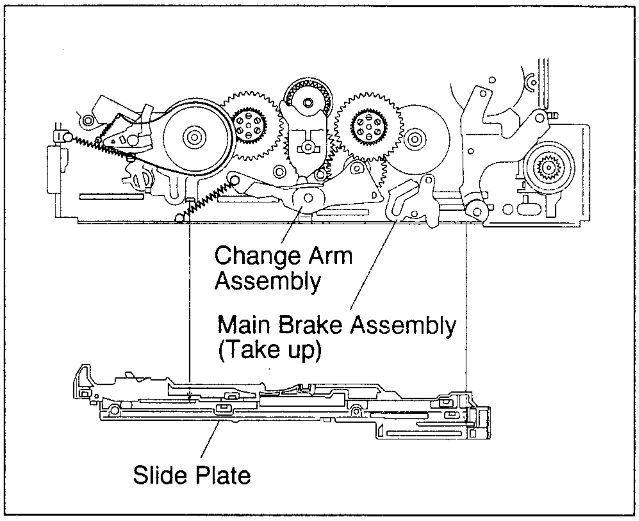

Change Arm Assembly
Main Brake Assembly (Take up)
Slide Plate

Fig. 2-5-17

2.5.11 Change Lever Assembly, Rotary Encoder

(1) Slide the change lever assembly in the direction of the arrow and remove.

(2) While pushing the claws on both sides in the disengaging directions, take out the rotary encoder.

(3) When attaching the rotary encoder, position it so that the alignment markings face each other as shown in Fig. 2-5-18, then attach the rotary encoder.

NOTE 1: *Before removing the change lever assembly, it is required to remove the belt (Fig. 2-5-16).*

NOTE 2: *Take care of the cassette gear, which is disengaged at the same time as the change lever assembly is removed.*

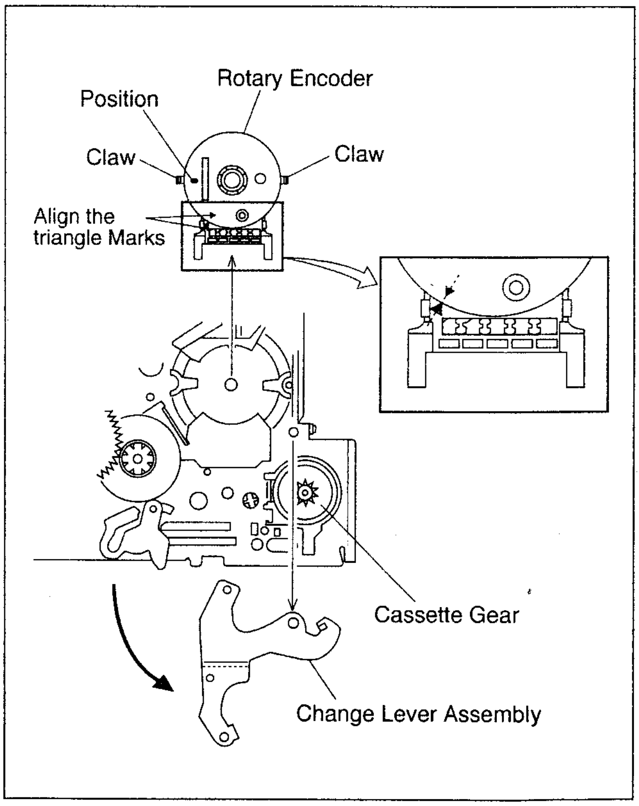

Rotary Encoder
Position
Claw
Claw
Align the triangle Marks
Cassette Gear
Change Lever Assembly

Fig. 2-5-18

2.5.12 Tension Arm Assembly, Tension Band Assembly, Reel Disk (Supply), Sub Brake Assembly (Supply), Clutch Unit (Supply), Take up Lever

(1) Disengage the spring ⓐ of the sub brake assembly (supply) from the hook.
(2) Disengage the spring ⓒ from the hook.
(3) Take out the slit washer, and remove the tension arm assembly. Also remove the tension band assembly by disengaging the claw.
(4) Take out the slit washer, and remove the reel disk (supply).
(5) While pushing the claw in the disengaging direction, remove the sub brake assembly (supply).
(6) Remove the clutch unit (supply).
(7) Remove the take up lever assembly.

NOTE 1: *When attaching the tension arm assembly, be sure to adjust the phase of the tension arm lever.*

NOTE 2: *After removing the clutch unit (supply), it is possible to remove the slit disk (supply) and the main brake assembly (supply).*

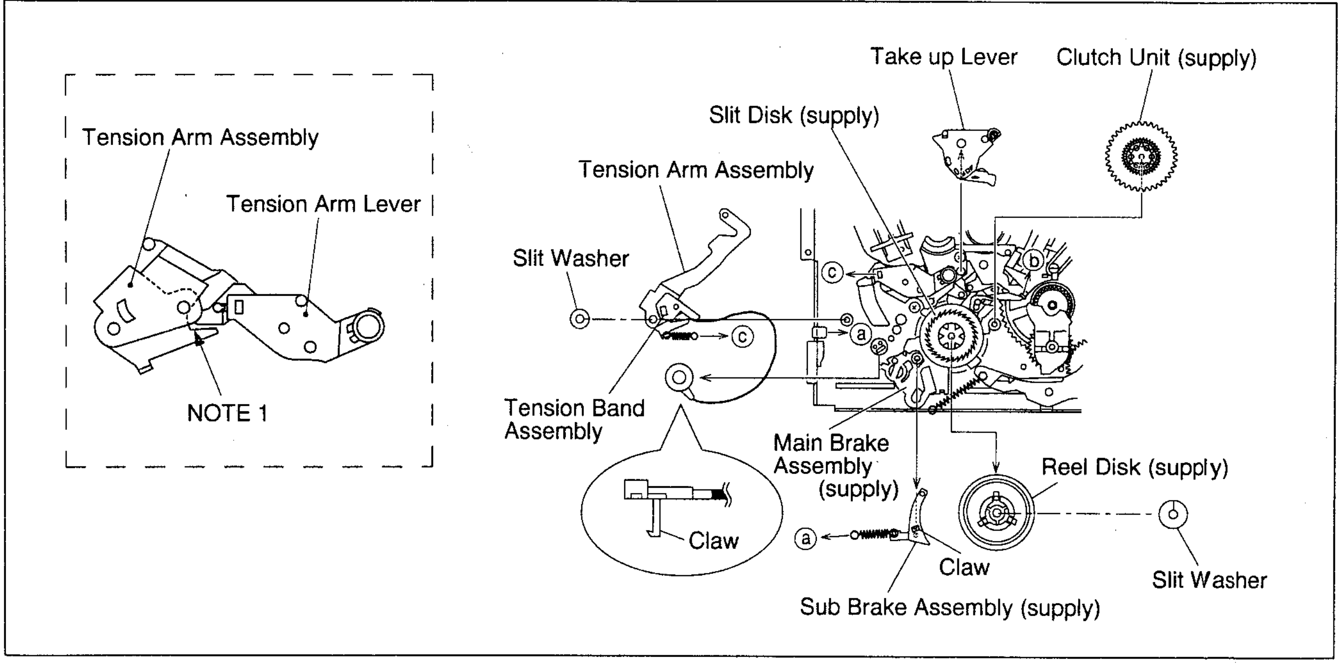

Tension Arm Assembly
Tension Arm Lever
NOTE 1
Take up Lever
Clutch Unit (supply)
Slit Disk (supply)
Tension Arm Assembly
Slit Washer
ⓒ
ⓑ
ⓐ
Tension Band Assembly
Claw
Main Brake Assembly (supply)
Reel Disk (supply)
ⓐ
Claw
Slit Washer
Sub Brake Assembly (supply)

Fig. 2-5-19

2.5.13 Take up Head, Tension Arm Lever

(1) Remove the take up head and tension arm lever.

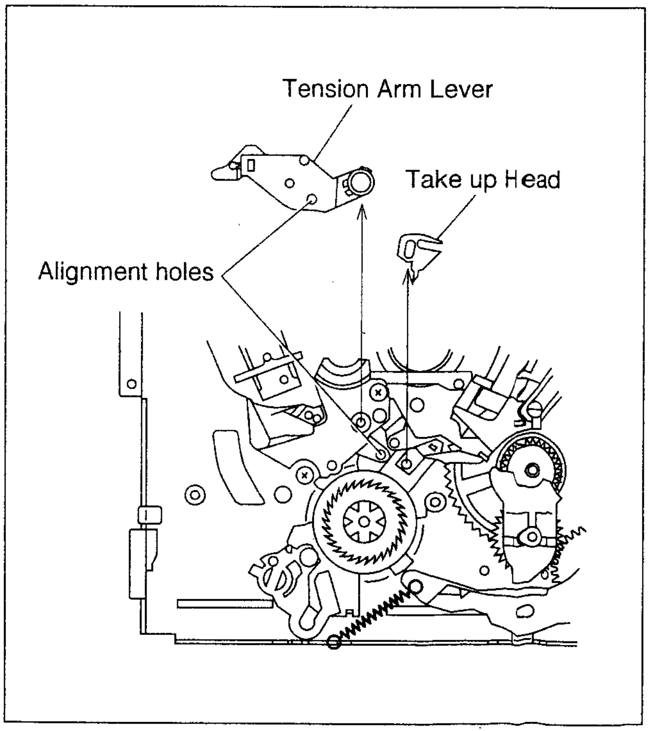

Tension Arm Lever
Take up Head
Alignment holes

Fig.2-5-20

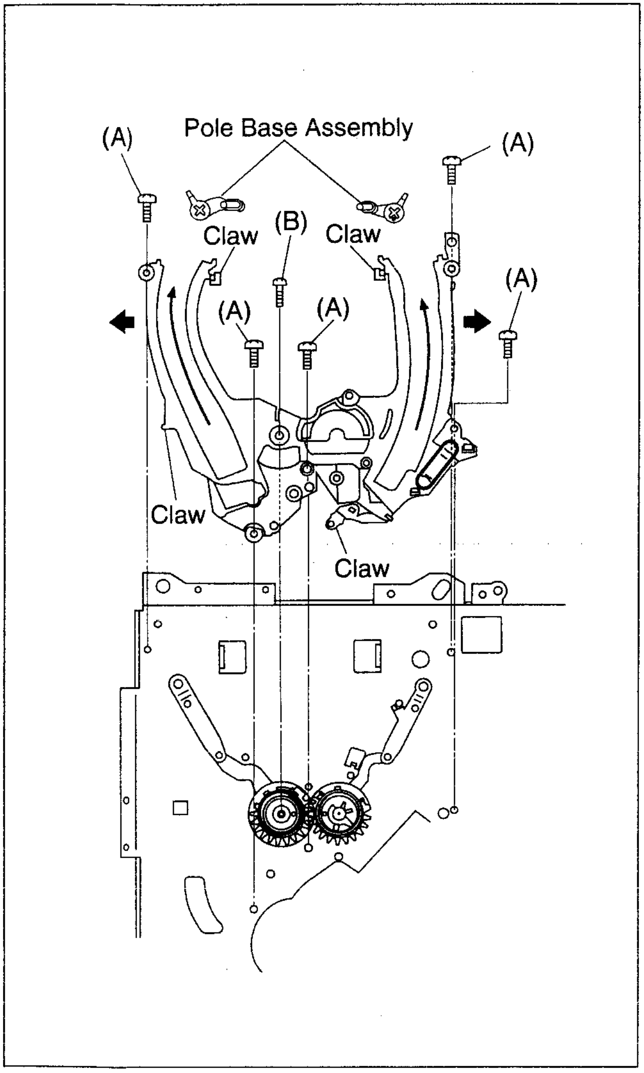
2.5.14 Guide Rail

(1) Take out the 5 screws (A) and 1 screw (B).

(2) By expanding the rails on the outer sides of the guide rail, remove the 2 pole base assemblies (supply, take up).

(3) Disengage the 4 claws and remove the guide rail.

NOTE : *Before removing the guide rail, it is required to remove the drum assembly.*



(A)
Pole Base Assembly
(A)
Claw
(B)
Claw
(A)
(A)
(A)
Claw
Claw

Fig. 2-5-21

2.5.15 Stator Assembly

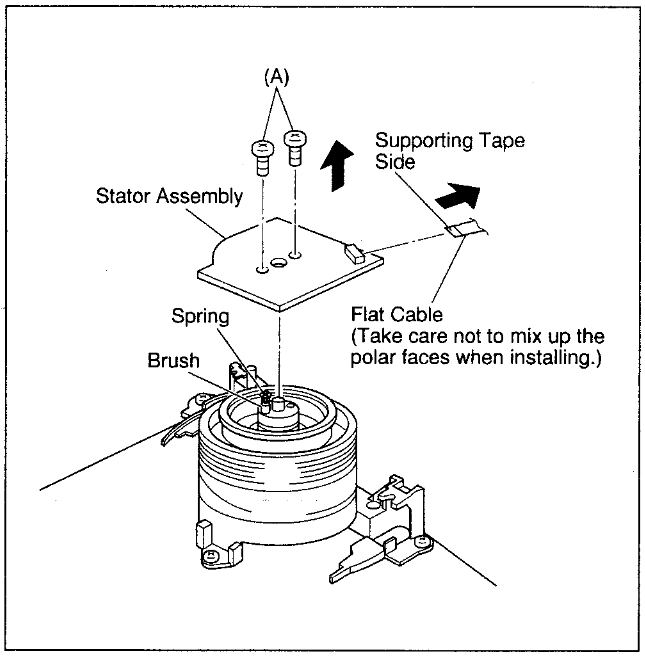
(1) Unplug the flat cable.

(2) Take out the 2 screws (A).

(3) Remove the stator assembly by lifting it in the direction of the arrow (straight upward).

NOTE 1: *Be careful not to lose the brush and spring.*

NOTE 2: *After attaching, always perform "3.2.1 PB SWITCHING POINT ADJUSTMENT" in "ELECTRICAL ADJUSTMENTS".*



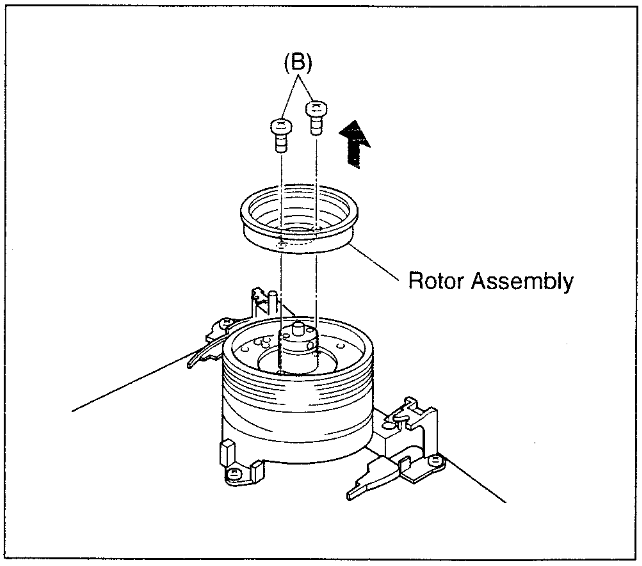
(A)
Supporting Tape Side
Stator Assembly
Spring
Brush
Flat Cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-5-22

2.5.16 Rotor Assembly

(1) Remove the stator assembly.

(2) Take out the 2 screws (B) and then remove the rotor assembly.



(B)
Rotor Assembly

Fig.2-5-23

NOTE : *When attaching the rotor assembly, make sure that the phases are matched correctly. Otherwise, normal image cannot be displayed. (Fig. 2-5-24)*

(3) Set the phases of the upper drum assembly and rotor assembly as shown in Fig. 2-5-24.

(4) Align hole (a) of the upper drum assembly and hole (b) of the rotor assembly, then tighten the 2 screws (B).

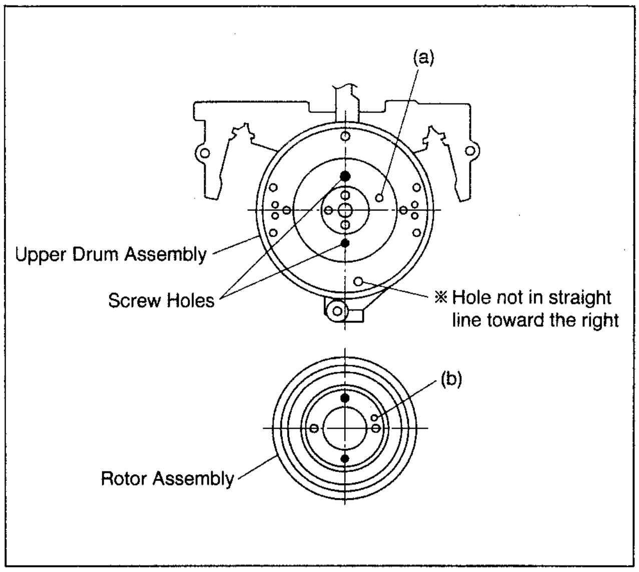

(a)
Upper Drum Assembly
Screw Holes
※ Hole not in straight line toward the right
(b)
Rotor Assembly

Fig. 2-5-24

2.5.17 Upper Drum Assembly

1. Removal

(1) Remove the stator assembly and rotor assembly. (See Figs. 2.5.15 and 2.5.16.)

(2) Loosen the screw of the collar assembly using an hexagonal wrench (1.5 mm), then remove the collar assembly.

NOTE: *Be careful not to lose the brush and spring.*

(3) Remove the upper drum assembly, then take out the washer using a pair of tweezers.

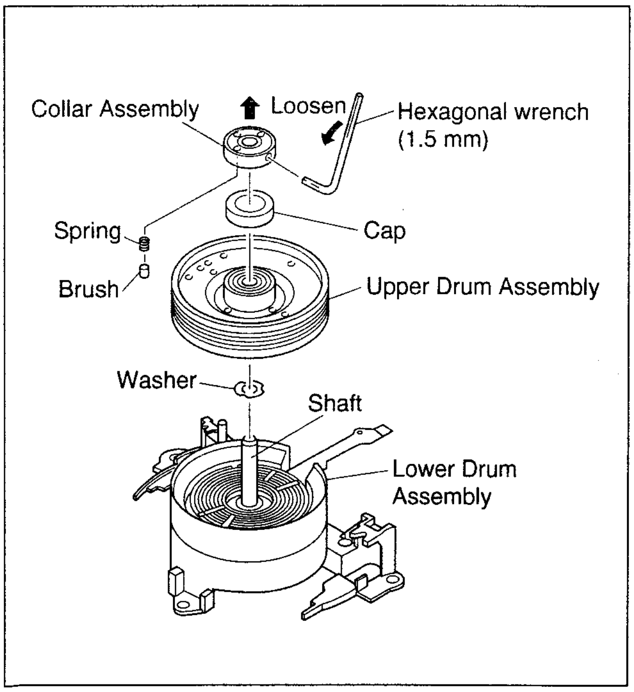

Collar Assembly
⬆ Loosen
Hexagonal wrench (1.5 mm)
Spring
Cap
Brush
Upper Drum Assembly
Washer
Shaft
Lower Drum Assembly

Fig. 2-5-25

2.5.18 Installation

(1) Clean the coil sections of the lower drum assembly and new upper drum assembly using a tool such as an air-brush.

(2) Attach the new washer and upper drum assembly to the drum shaft. (See Fig. 2-5-25.)

NOTE : *When replacing the upper drum assembly, also replace the washer.*

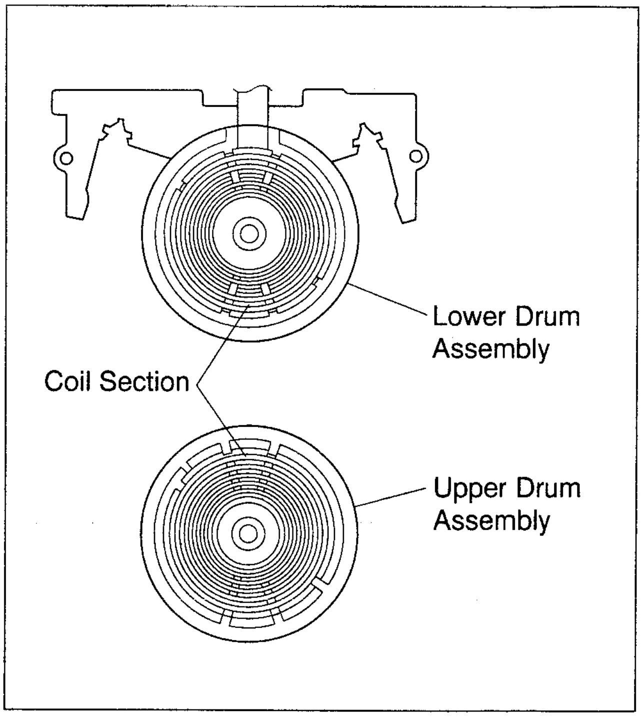

Lower Drum Assembly
Coil Section
Upper Drum Assembly

Fig.2-5-26

(3) Determine the positioning of the collar assembly by taking care of its vertical alignment as shown in Fig. 2-5-27.

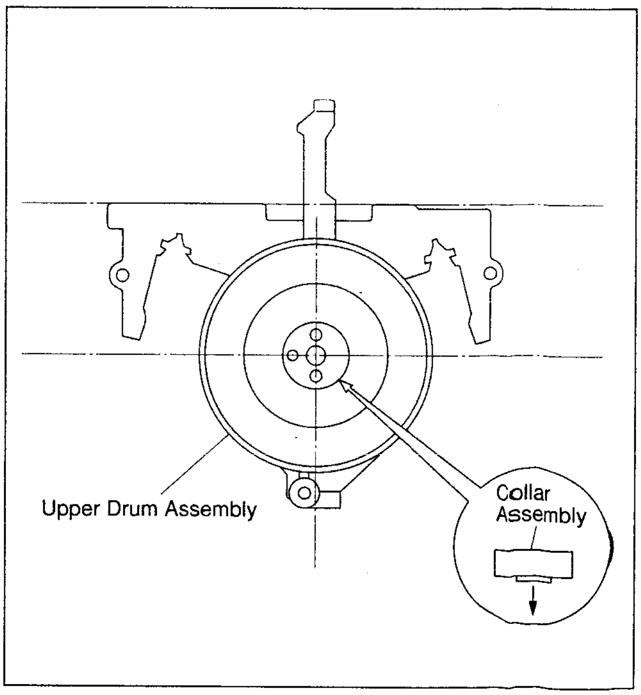

Upper Drum Assembly
Collar Assembly

Fig.2-5-27

(4) While pushing down with fingers, clamp the collar assembly using an hexagonal wrench.

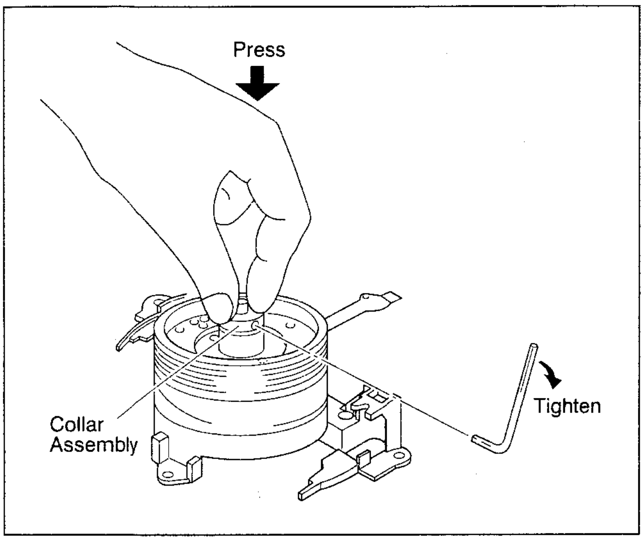

Press
Collar Assembly
Tighten

Fig.2-5-28

(5) After attaching, try rotating the upper drum with the hand to confirm that it can rotate normally.
(6) Place the brush and spring in the hole of the collar assembly. Subsequently, take special care so as not to lose the parts.
(7) Attach the rotor assembly and stator assembly as described in 2.5.15 and 2.5.16.
(8) After attaching, clean the upper drum assembly and lower drum assembly, and perform the following adjustments.
- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check the LP mode.)

2.6 INSTALLATION OF MAIN PARTS (Mechanism Phase Alignment)

2.6.1 Before Assembly

The mechanism of this model is closely related with the rotary encoder and the system control circuitry. The connection between the rotary encoder and control cam determines the movement of all mechanical parts including the slide plate, loading arm assembly, control plate and brake. If these parts are not installed in the correct positions, operations such as loading and unloading will not be possible.
Installation of the main parts (mechanism phase alignment) should be performed exclusively in the mechanism operation mode, as with the operations in the previous sections.

2.6.2 Loading Arm Assemblies (Supply, Take up)

(1) Attach the loading arm assembly (supply) and loading arm assembly (take up) so that the alignment markings on their gears face each other and the holes on their arms are respectively aligned with the holes on the main deck.
(2) Attach the guide rail, attach the pole base assemblies onto the extremities of the arms, then perform the unloading operation so that the pole base assemblies come to the most forward positions.

NOTE: ***When attaching the pole base assemblies (supply/take up), temporarily tighten the 3 screws other than the 2 screws on the sides of the guide rail extremities so that the parts do not slip out.***

(3) Attach the surrounding parts of the guide rail.

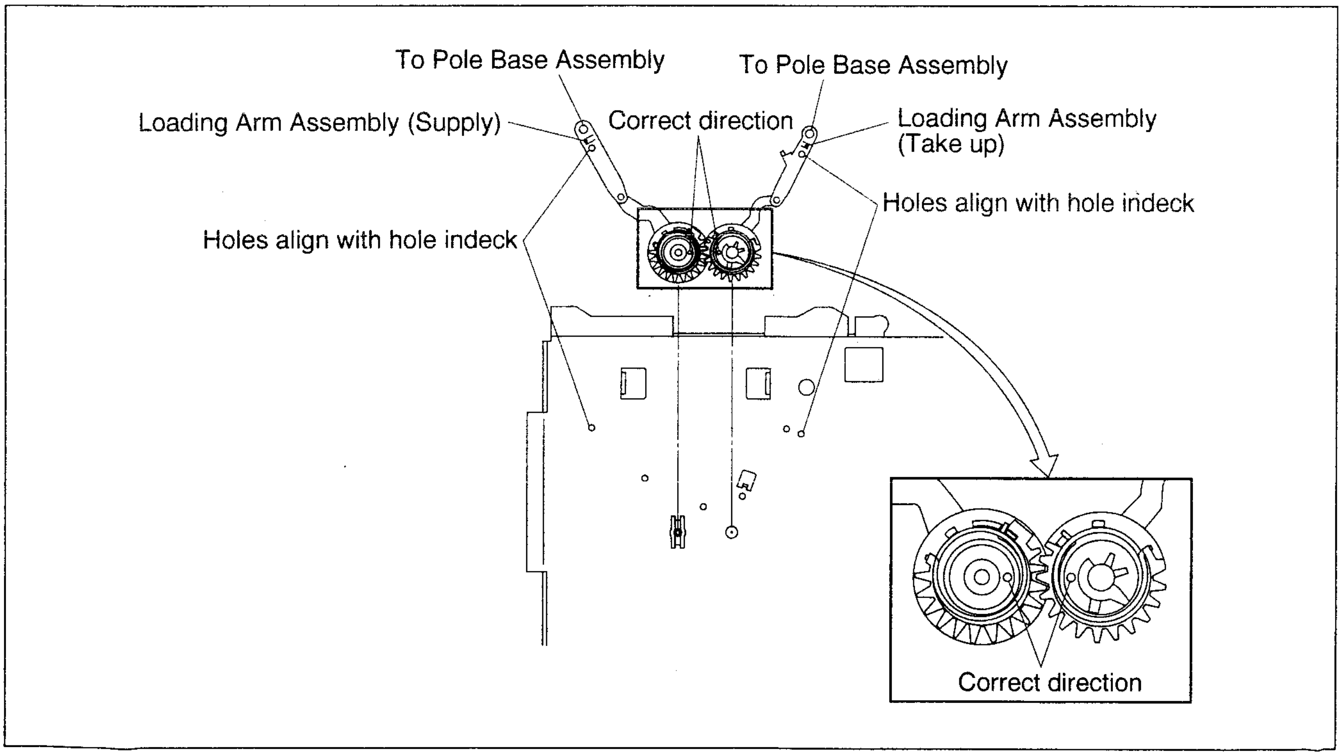

To Pole Base Assembly
To Pole Base Assembly
Loading Arm Assembly (Supply)
Correct direction
Loading Arm Assembly (Take up)
Holes align with hole indeck
Holes align with hole indeck
Correct direction

Fig. 2-6-1

2.6.3 Rotary Encoder, Change Lever Assembly, Control Cam

(1) To attach the rotary encoder, align the triangular alignment markings and push the rotary encoder in until the claws are locked.

(2) To attach the change lever assembly, align its holes with the holes on the mechanism assembly. As the change lever assembly is projected on the rear side of the mechanism assembly, take care that the assemblies are not separated from each other.

(3) To attach the control cam, align its holes with the holes on the mechanism assembly by pushing the capstan brake assembly downward.

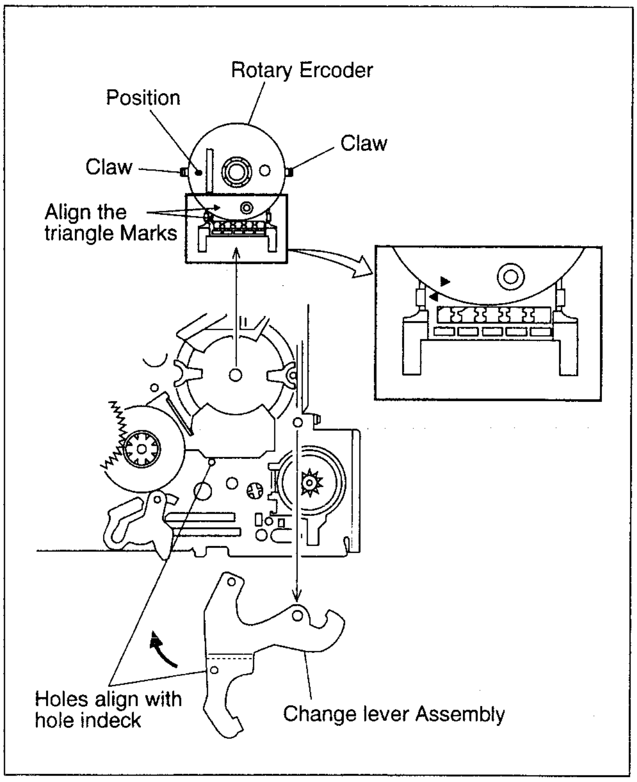

Rotary Ercoder
Position
Claw
Claw
Align the triangle Marks
Holes align with hole indeck
Change lever Assembly

Fig. 2-6-2

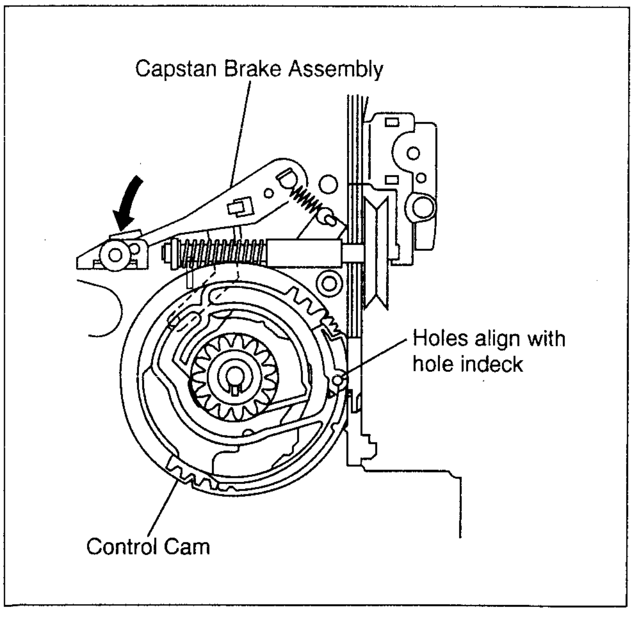

Capstan Brake Assembly
Holes align with hole indeck
Control Cam

Fig. 2-6-3

2.6.4 Slide Plate

(1) While pushing down the main brake assemblies (supply, take up) so that they come in contact with the extremity of the mechanism assembly, attach the slide plate so that its alignment holes are aligned with the holes of the mechanism assembly.

NOTE: *Free the spring of the sub-brake assembly (supply) during installation.*

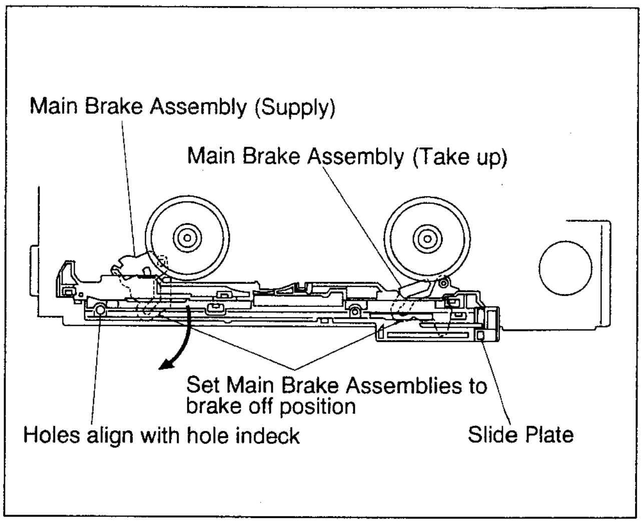

Main Brake Assembly (Supply)
Main Brake Assembly (Take up)
Set Main Brake Assemblies to brake off position
Holes align with hole indeck
Slide Plate

Fig.2-6-4

2.6.5 Control Plate

(1) Attach the control plate by aligning the 2 alignment holes on the control plate with the alignment holes on the main deck assembly as well as the alignment holes on the take up lever. As the take up lever is pulled by a tension spring, use a pair of tweezers or similar too to align the holes.

(2) After attaching the control plate, lock it with the slit washer and control bracket.

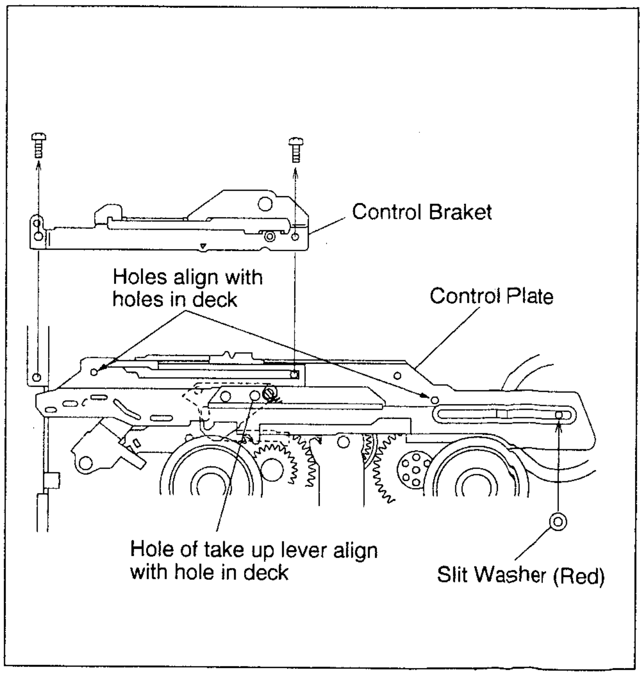

Control Braket
Holes align with holes in deck
Control Plate
Hole of take up lever align with hole in deck
Slit Washer (Red)

Fig. 2-6-5

2.7 MECHANISM TIMING CHART (VHS SECTION)

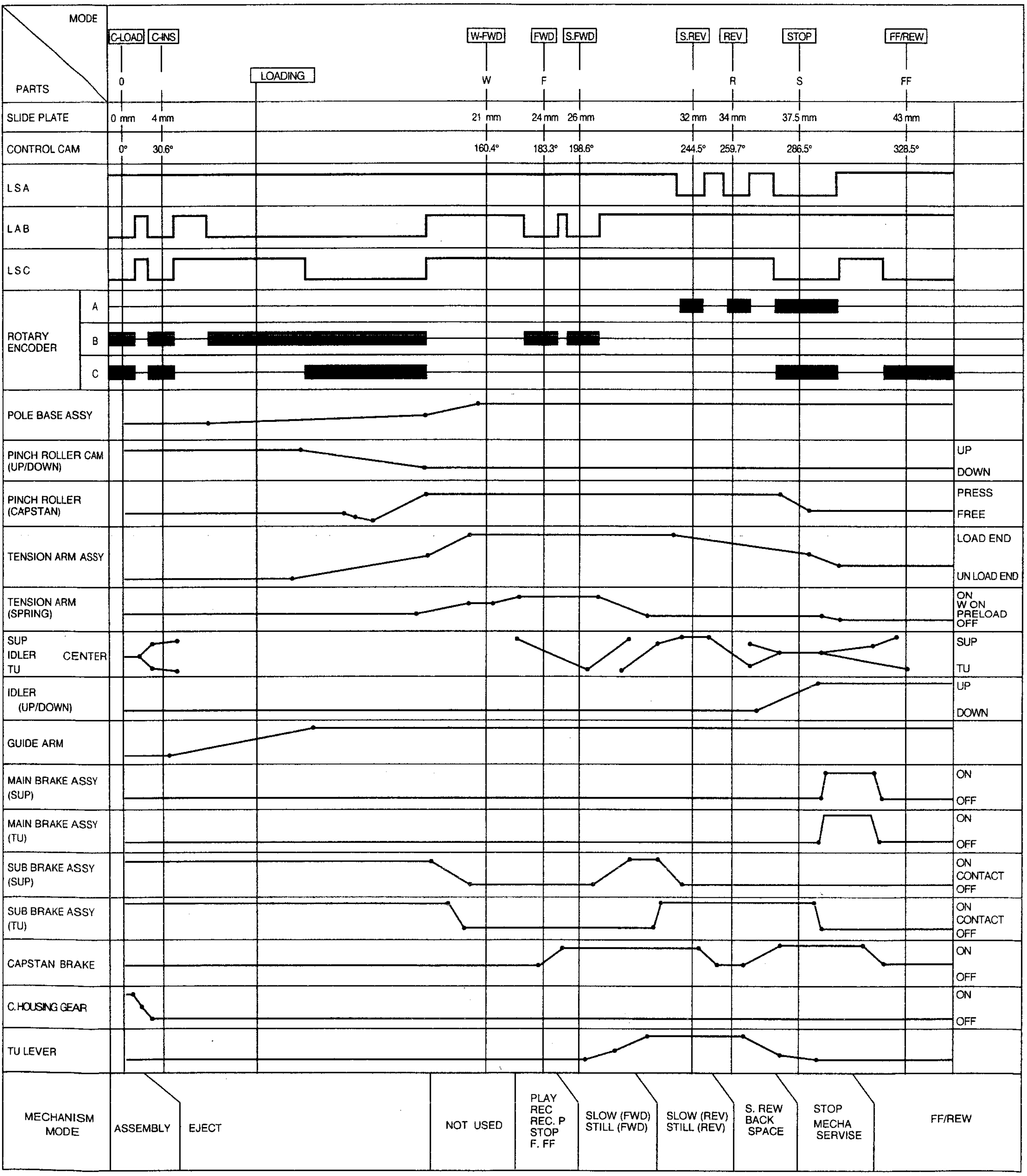

MODE
PARTS
C-LOAD
C-INS
LOADING
W-FWD
FWD
S.FWD
S.REV
REV
STOP
FF/REW
0
W
F
R
S
FF
SLIDE PLATE
0 mm
4 mm
21 mm
24 mm
26 mm
32 mm
34 mm
37.5 mm
43 mm
CONTROL CAM
0°
30.6°
160.4°
183.3°
198.6°
244.5°
259.7°
286.5°
328.5°
LSA
LAB
LSC
ROTARY ENCODER
A
B
C
POLE BASE ASSY
PINCH ROLLER CAM (UP/DOWN)
UP
DOWN
PINCH ROLLER (CAPSTAN)
PRESS
FREE
TENSION ARM ASSY
LOAD END
UN LOAD END
TENSION ARM (SPRING)
ON
W ON
PRELOAD
OFF
SUP
IDLER
CENTER
TU
SUP
TU
IDLER (UP/DOWN)
UP
DOWN
GUIDE ARM
MAIN BRAKE ASSY (SUP)
ON
OFF
MAIN BRAKE ASSY (TU)
ON
OFF
SUB BRAKE ASSY (SUP)
ON
CONTACT
OFF
SUB BRAKE ASSY (TU)
ON
CONTACT
OFF
CAPSTAN BRAKE
ON
OFF
C.HOUSING GEAR
ON
OFF
TU LEVER
MECHANISM MODE
ASSEMBLY
EJECT
NOT USED
PLAY
REC
REC. P
STOP
F. FF
SLOW (FWD)
STILL (FWD)
SLOW (REV)
STILL (REV)
S. REW
BACK
SPACE
STOP
MECHA
SERVISE
FF/REW

Table 2-7-1

2.8 COMPATIBILITY ADJUSTMENT

NOTE :
- *The compatibility adjustment is a critical operation, but is not required in usual servicing. It is required for example after the audio control head, drum assembly and/or tape transport parts have been replaced.*
- *To avoid damaging the alignment tape, prepare a cassette tape (for use in self-recording/playback) and use it first to check the tape transport before starting the compatibility adjustment.*

2.8.1 FM Waveform Linearity Check/Adjustment

(1) Connect an oscilloscope to TP106 (PB FM) on the MAIN board assembly, and connect the external sync to TP111 (D.FF) on the MAIN board assembly.

(2) Play the MHPE alignment tape and observe the FM waveform.

(3) Press the two channel buttons (+, –) on the set simultaneously during playback to initiate manual tracking. (The tracking is set to the centre position at this time.)

(4) Check that the FM waveform level is not decreased significantly by the tracking operation and that it shows overall parallel, linear variation. Perform the following adjustments if it is deemed necessary. (Fig. 2-8-1)

(5) Using an hexagonal wrench, gently loosen the set screw at the bottom of the pole base assembly. (Be careful not to loosen it too much.) (Fig. 2-8-2)

(6) Decrease the FM waveform by pressing the channel button (+, –) of the set during playback. If a drop in level is observed on the left side as shown in Fig. 2-8-3, make the FM waveform linear by turning the supply guide roller on the pole base assembly (supply) using roller driver (PTU94002). If a drop in level is observed on the right side, make the FM waveform linear by turning the take up guide roller on the pole base assembly (take up). (Fig. 2-8-3)

(7) Then play MHPE-L and check that the FM waveform can be varied in parallel and linearly by the tracking operation. Fine-adjust the guide rollers of the pole base assemblies (supply, take up) as required.

(8) After completing adjustment, tighten the set screw at the bottom of the pole base assembly. (Be careful not to tighten it too much.)

(9) After tightening the set screw, play the MHPE and MHPE-L alignment tapes and confirm that the FM waveform varies normally.

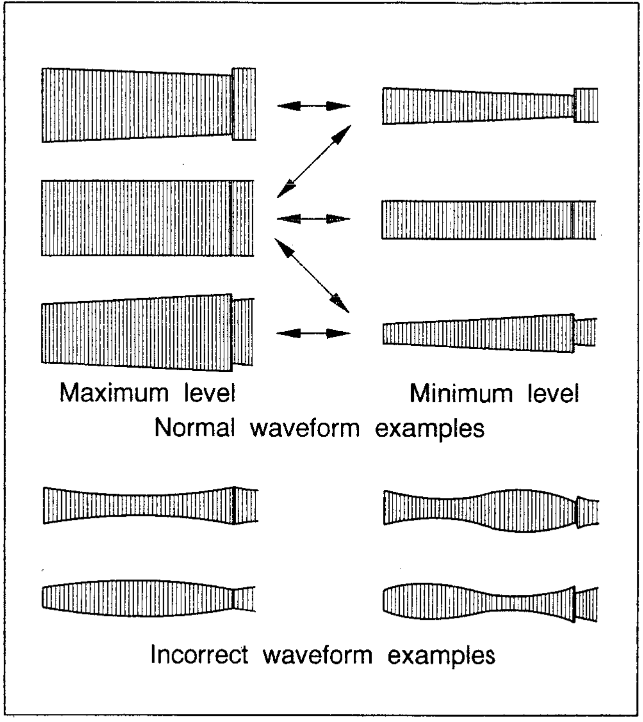


Fig. 2-8-1

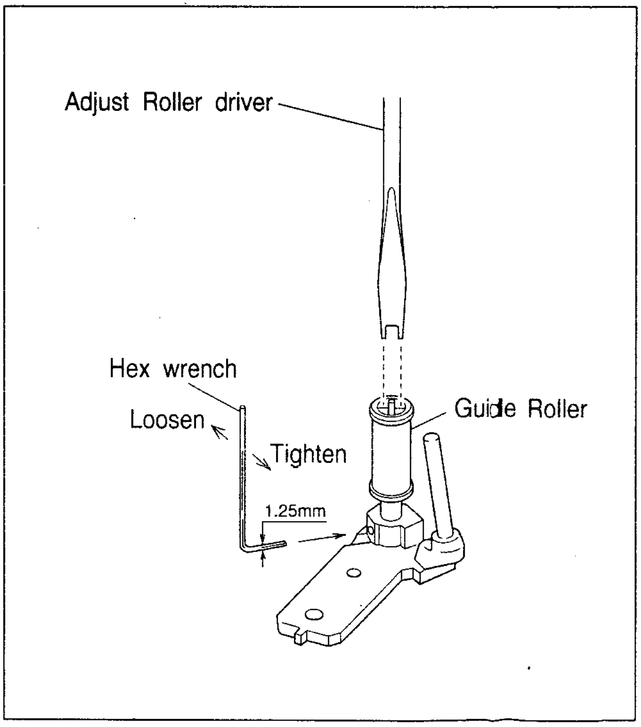


Fig. 2-8-2

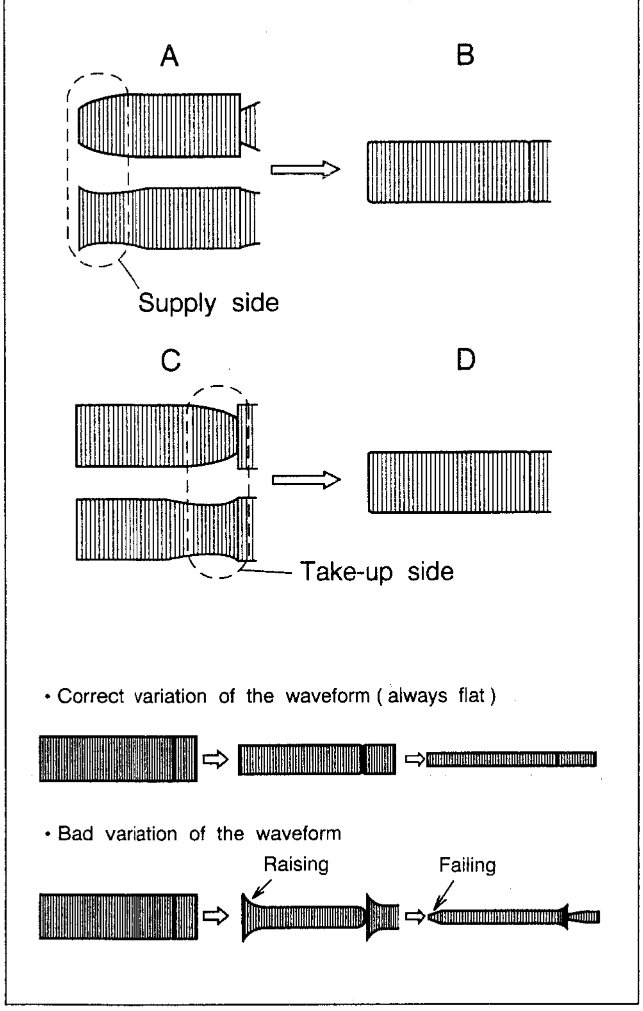

A
B
Supply side
C
D
Take-up side
• Correct variation of the waveform (always flat)
• Bad variation of the waveform
Raising
Failing

Fig. 2-8-3

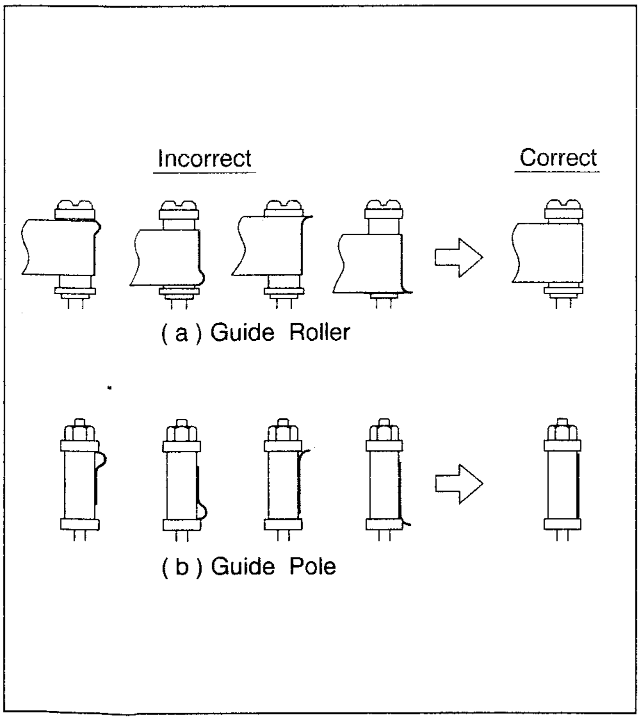

Incorrect
Correct
(a) Guide Roller
(b) Guide Pole

Fig. 2-8-4

2.8.2 Audio Control Head Azimuth and Tilt Check/Adjustment

NOTE : *To facilitate the adjustment, set the A/C head height temporarily in advance. (Fig. 2-8-5)*

(1) Connect CH1 of an oscilloscope to AUDIO OUT and CH-2 to TP4001 (CTL. P) on the main board, and observe the waveforms of the two channels in the ALT mode.

(2) Play the MHPE alignment tape and adjust screws (1), (2) and (3) little by little to maximize both the audio output and control pulse waveforms. Screws (1) and (3) adjust the tilting and screw (2) adjusts the azimuth.

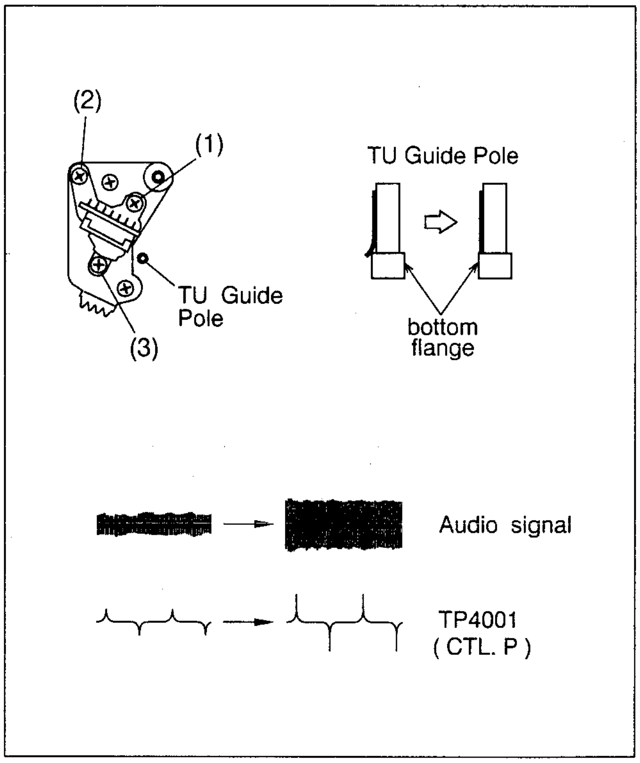

(2)
(1)
TU Guide Pole
(3)
TU Guide Pole
bottom flange
Audio signal
TP4001
(CTL. P)

Fig. 2-8-5

2.8.3 Audio Control Head Phase (X-Value) Check/Adjustment

(1) Connect an oscilloscope to TP106 (PB FM) on the MAIN board assembly, and connect the external sync to TP111 (D.FF) on the MAIN board assembly.
(2) Play the MHPE alignment tape and observe the FM waveform.
(3) Press the two channel buttons (+, –) on the set simultaneously during playback to initiate manual tracking. (The tracking is set to the centre position at this time.)
(4) Loosen screws (4) and (5), then set the A/C head positioning tool (PTU94010) as shown in Fig. 2-8-6.
(5) Turn the A/C head positioning tool to move the audio control head fully toward the capstan.
Gradually return the audio control head toward the drum, stop the movement at the first point where the FM waveform is maximized, and fix screw (4) temporarily.
(6) Play the MHPE-L alignment tape.
(7) Press the two channel buttons (+, –) on the set simultaneously during playback to initiate manual tracking. (The tracking is set to the centre position at this time.)
(8) Perform tracking and check that the FM waveform is maximized.
(9) If it is not maximized, loosen temporary-fixed screw (4), turn the A/C head positioning tool to move the audio control head to the nearest point where the FM waveform is maximized, and tighten screws (4) and (5).

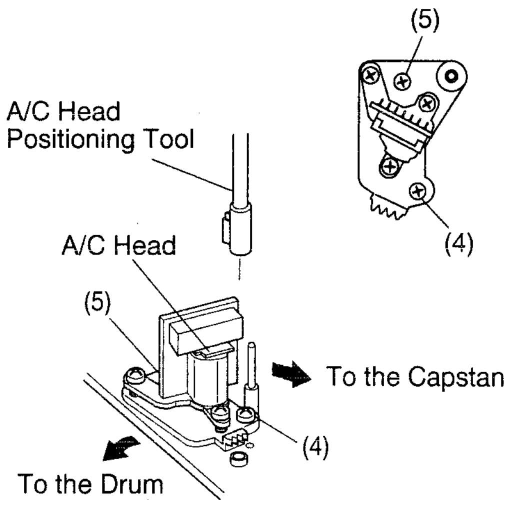


Fig. 2-8-6

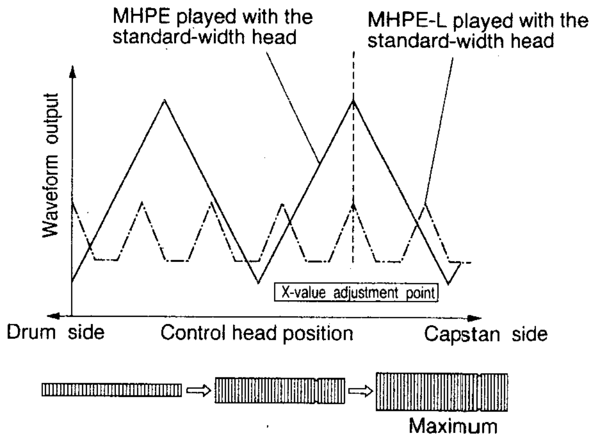
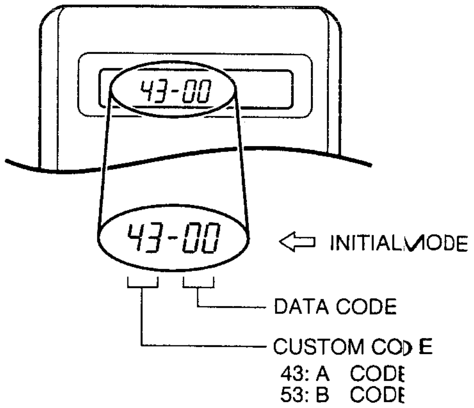


Fig. 2-8-7

2.8.4 Presetting the LP Mode Auto Tracking

Note: *Set the remote control code of the video recorder to A mode.*
(The unit set in B mode does not accept the remote control code of the Jig RCU.)

(1) Connect an oscilloscope to TP106 (PB FM) of the MAIN board assembly and the external sync to TP111 (D.FF) of the MAIN board assembly.
(2) Play the MHPE-L alignment, then observe the FM waveform and confirm that the auto-tracking operation has completed.
(3) Transmitting the data code "50" with the Jig RCU twice.
(4) Check that the MHPE-L is not ejected.
(5) If the MHPE-L is ejected, adjust the audio control head phase (X-value) again.



DATA CODE : 50

[Data transmitting method]
Depress the " ⇡ " (3) button after the data code is set.

Fig. 2-8-8

2.8.5 Tension Pole Position Check/Adjustment

(1) Play the back-tension cassette gauge (PUJ48076-2) and check that it indicates a value between 29 and 46 g-cm.

(2) If the reading is outside the above range, adjust with the following procedure.

1) Set the mechanism service mode. (See "1.9 MECHANISM SERVICE MODE.")

2) Initiate the play mode and adjust the pin with a flat-blade screwdriver, paying attention not to touch the pole with a diameter of $\phi 2.5$ mm. (Fig. 2-8-9)

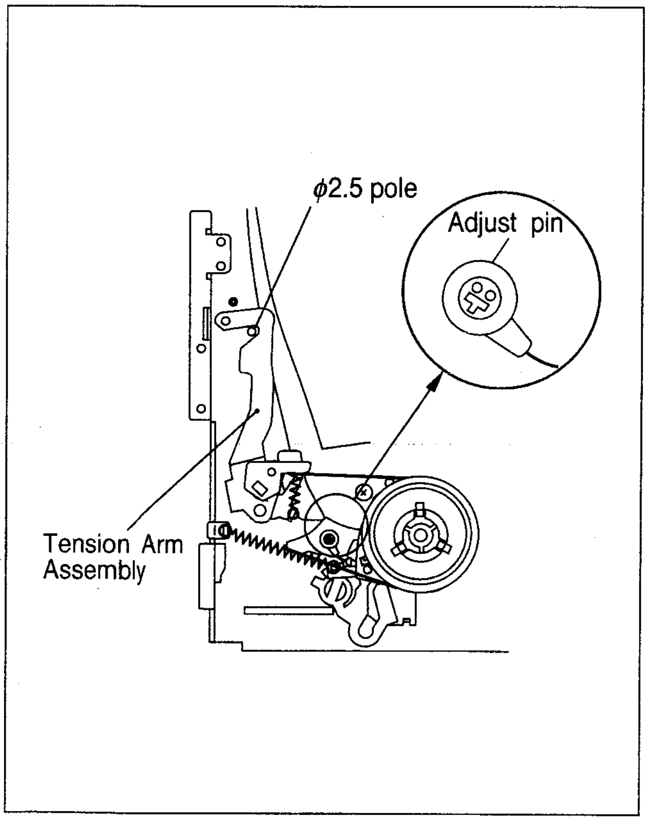


Fig. 2-8-9

MECHANISM ADJUSTMENT (DV)

2.9 PREPARATION

2.9.1 Precautions

(1) Observe the specified screw tightening torque when attaching parts. The torque should be 0.04 N•m (0.4 kgf•cm) unless otherwise specified.
(2) Always disconnect the power supply unit before proceeding to solder or attach parts.
(3) When plugging or unplugging a wire, be careful not to damage the connector.
(4) When replacing a part, be careful not to damage other parts or to mistakenly attach parts.

2.9.2 Tools Required for Adjustments

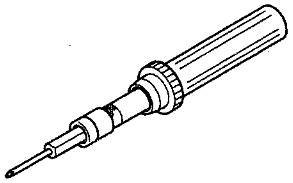
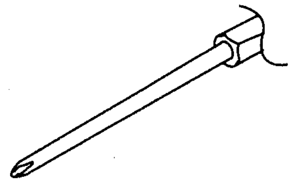
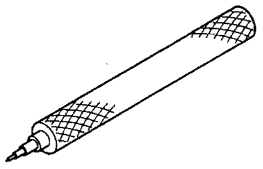
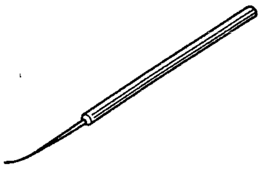
1 TORQUE DRIVER YTU94088	2 BIT YTU94088-003
	
3 Tool for installing slit washer YTU94121A	4 Tool for replacing tip IC PTS40844-2
	

Table 2-9-1 Tools Required for Adjustments

2.9.3 Disassembly and Assembly Procedures

The following table shows the steps for assembling or disassembling the mechanism parts. Read the following descriptions carefully before actual assembly/disassembly operations.

(1) : Order of disassembly steps. Reverse this order when assembling.
(2) : Name of the disassembled/assembled part.
(3) : Surface where the disassembled/assembled part is mounted. T = Top. B: Bottom.
(4) : Number of disassembly drawing.
(5) : Parts to be removed in disassembly/assembly, such as screws, washers and springs, and the points.

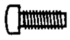
Symbol	Name & Point
S	Screw
W	Washer
P	Spring
*	Connector, lock(L), soldering(SD), shield, etc.

[Example] • (W1) = Remove the washer W1.
• (P1) = Remove the spring P1.

(6) : Notes for disassembly/assembly.
(7) : For the phase alignment in disassembly/assembly and the parts which require phase adjustments after assembly, see "2.16 MECHANISM PHASE CHECK/ADJUSTMENT".

2.9.4 Screws and Washers Used in Disassembly/Assembly of the Mechanism Assembly

Table 2-9-1 shows the symbols, designs, part numbers and colours of the screws and washers used in the mechanism assembly.
When disassembling or assembling the mechanism assembly, be sure to attach screws and washers correctly by referring to the following table.

Symbol	Shape	Part number	Colour
(S1)		QYTDSP2004Z	GOLD
(S2)		YQ43893	SILVER
(S3)		YQ43893-7	BLACK

Symbol	Shape	Part number	Colour
(W1)		YQ44246	RED
(W2)		YQ44246-3	BLACK
(W3)		YQ43933-2	BLACK

Table 2-9-1

STEP /LOC No.	PART NAME		FIG. No.	POINT	NOTE	DISCRIPTION
①	Ⓐ Cassette housing assembly/ Ⓑ Mechanism assembly	T	1	2(S1),(L1) – (L5)	1	
②	① Drum assembly	T	2	3(S2)	2,3	
③	② Motor bracket assembly	T	2	4(S2)	2,4	
④	③ Middle catcher assembly	T	3	3(S2)	—	

↑ (1) ↑ (2) ↑ (3) ↑ (4) ↑ (5) ↑ (6) ↑ (7)

2.10 DISASSEMBLY/ASSEMBLY OF THE MECHANISM ASSEMBLY

2.10.1 Introduction

The disassembly and assembly of the mechanism assembly should usually be performed in the ASSEMBLY mode. (Table 2-10-1)

Note that the mechanism is in the cassette in (C-IN) mode when the mechanism assembly is taken out of the set and that the C-IN mode should be switched to the ASSEMBLY mode in this case.

To set the ASSEMBLY mode, apply 3 V DC to the electrodes on the upper part of the loading motor as shown in Fig. 2-10-7.

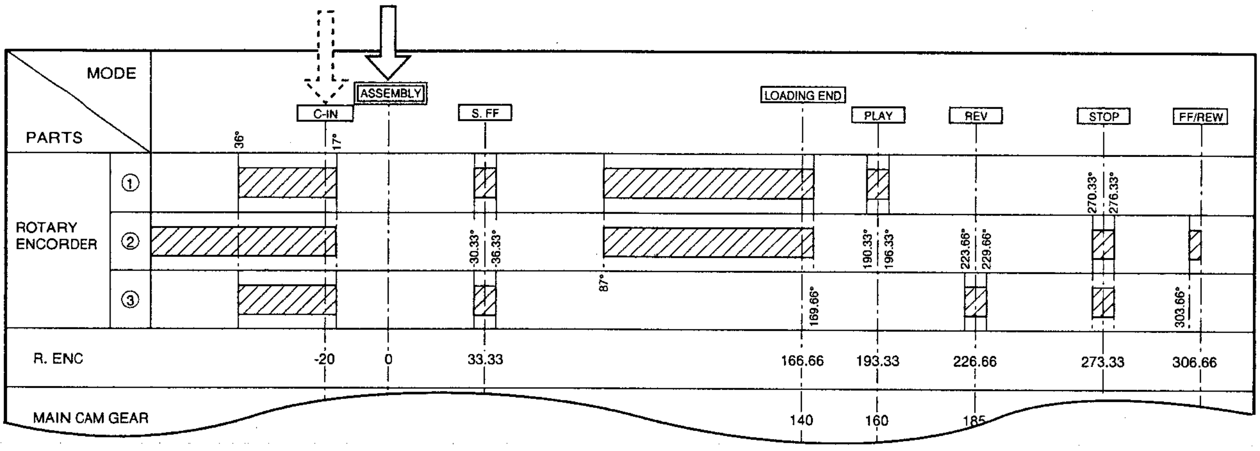

MODE
PARTS
C-IN
ASSEMBLY
S. FF
LOADING END
PLAY
REV
STOP
FF/REW
36°
17°
ROTARY ENCORDER
①
②
③
30.33°
36.33°
87°
169.66°
190.33°
196.33°
223.66°
229.66°
270.33°
276.33°
303.66°
R. ENC
-20
0
33.33
166.66
193.33
226.66
273.33
306.66
MAIN CAM GEAR
140
160
185

Table 2-10-1

2.10.2 Mechanism Modes

The mechanism has 6 modes as shown in Table 2-11-1. The current mode can be confirmed by the positioning of the "O" marking on the sub-cam gear and the "▲" marking on the mechanism.

See the following figures (Figs. 2-10-1 to -6) for details.

NOTE: *This mechanism assembly has another ASSEMBLY mode. However, this mode cannot be identified from the markings because it corresponds to an intermediate position between the C-IN (Ⓒ) mode and S-FF (Ⓗ) mode. This mode can be confirmed by the rotary encoder phase. See Fig. 2-10-7.*

1. Checking the mechanism mode

<C-IN : Ⓒ>

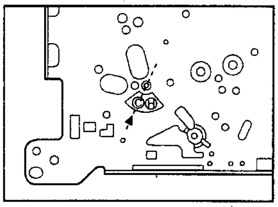


Fig. 2-10-1

<S-FF : Ⓗ>

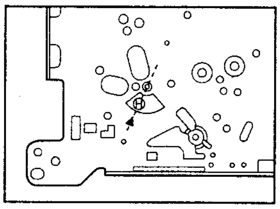


Fig. 2-10-2

<PLAY : Ⓟ>

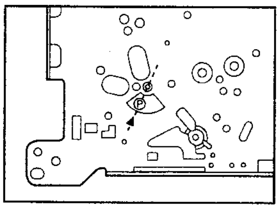


Fig. 2-10-3

<REV : Ⓡ>

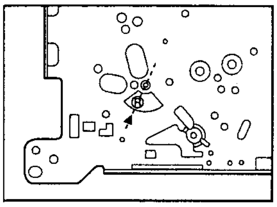


Fig. 2-10-4

<STOP : Ⓢ>

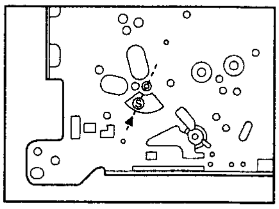


Fig. 2-10-5

<FF/REW : Ⓕ>

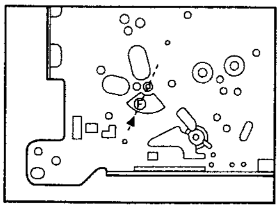
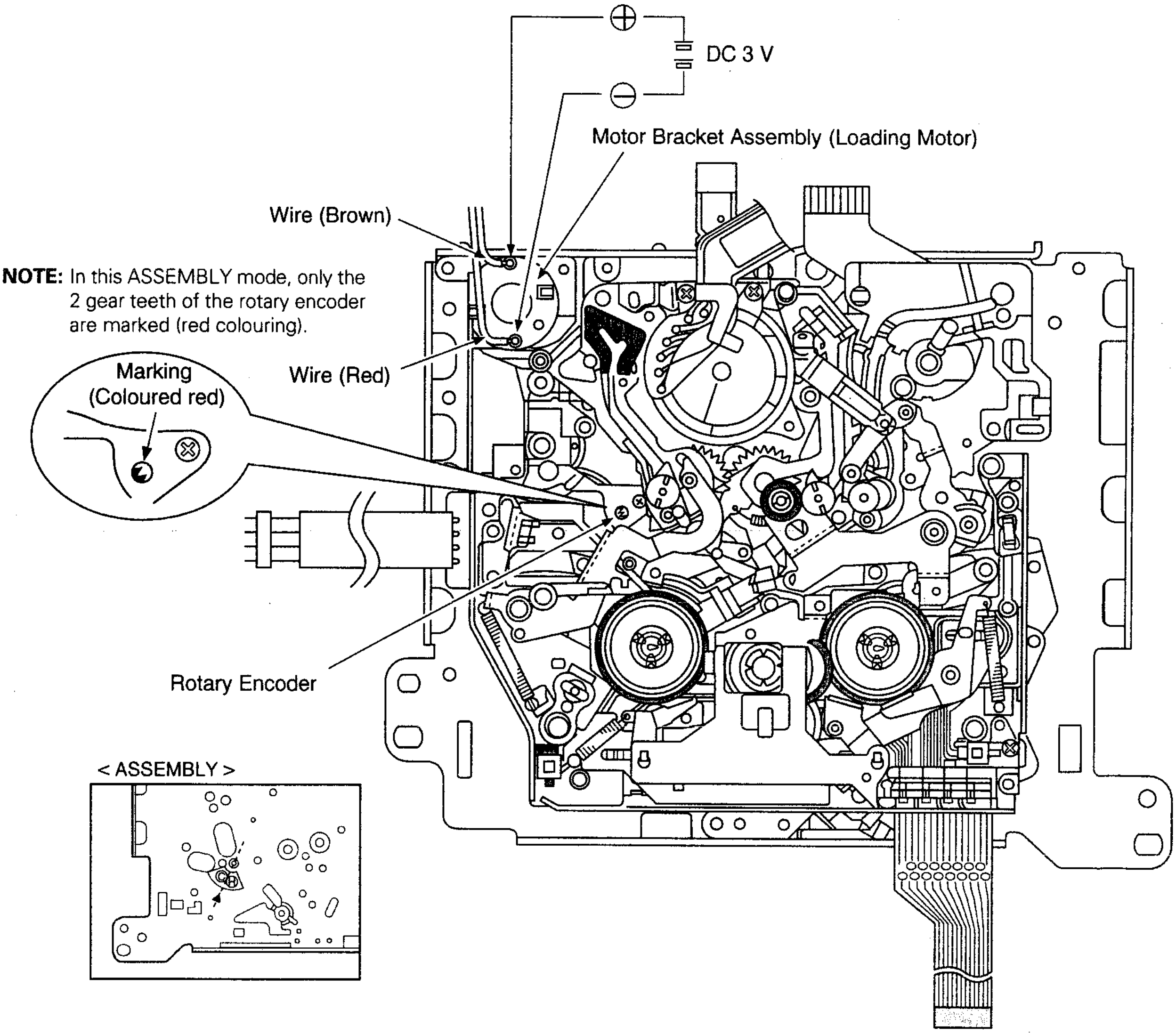


Fig. 2-10-6

2. Setting/checking the ASSEMBLY mode


⊕
⊖
DC 3 V
Motor Bracket Assembly (Loading Motor)
Wire (Brown)
Wire (Red)
Marking
(Coloured red)
Rotary Encoder
< ASSEMBLY >

NOTE: In this ASSEMBLY mode, only the 2 gear teeth of the rotary encoder are marked (red colouring).

Fig. 2-10-7

2.11 MECHANISM TIMING CHART

See following table (Table 2-11-1).

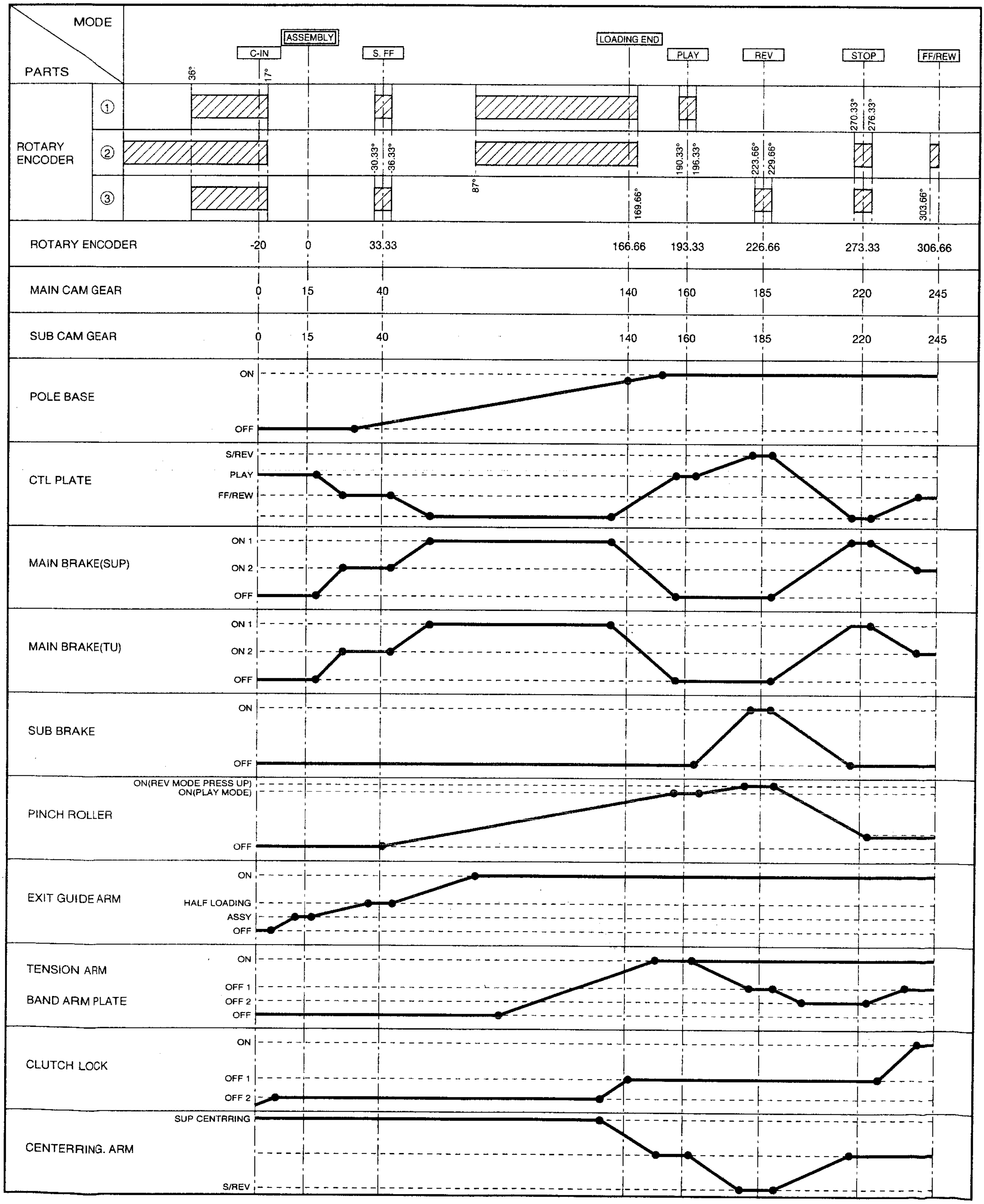

MODE
PARTS
C-IN
ASSEMBLY
S. FF
LOADING END
PLAY
REV
STOP
FF/REW
36°
17°
ROTARY ENCODER
①
②
③
-30.33°
-36.33°
87°
169.66°
190.33°
196.33°
223.66°
229.66°
270.33°
276.33°
303.66°
ROTARY ENCODER
-20
0
33.33
166.66
193.33
226.66
273.33
306.66
MAIN CAM GEAR
0
15
40
140
160
185
220
245
SUB CAM GEAR
0
15
40
140
160
185
220
245
POLE BASE
ON
OFF
CTL PLATE
S/REV
PLAY
FF/REW
MAIN BRAKE(SUP)
ON 1
ON 2
OFF
MAIN BRAKE(TU)
ON 1
ON 2
OFF
SUB BRAKE
ON
OFF
PINCH ROLLER
ON(REV MODE PRESS UP)
ON(PLAY MODE)
OFF
EXIT GUIDE ARM
ON
HALF LOADING
ASSY
OFF
TENSION ARM
BAND ARM PLATE
ON
OFF 1
OFF 2
OFF
CLUTCH LOCK
ON
OFF 1
OFF 2
CENTERRING. ARM
SUP CENTRRING
S/REV

Table 2-11-1

2.12 MECHANISM ASSEMBLY/DISASSEMBLY PROCEDURE TABLE

STEP /LOC No.	PART NAME		FIG. No.	POINT	NOTE	DISCRIPTION
1	Ⓐ Cassette housing assembly/ Ⓑ Mechanism assembly	T	2-13-1	2(S1),(L1) – (L5)	1	
2	① Drum assembly	T	2-13-2	3(S2)	2,3	
3	② Motor bracket assembly	T	2-13-2	4(S2)	2,4	
4	③ Middle catcher assembly	T	2-13-3	3(S2)	—	
5	④ Reel cover assembly	T	2-13-3	(S2), 2(L6)	5	
6	⑤ Pinch roller arm assembly	T	2-13-4	(W1), (L7)	6	
7	⑥ Sub brake assembly	T	2-13-4	(P1), (W1), (L8)	—	
8	⑦ Band arm plate assembly	T	2-13-4	(S3), (L9), (P2), (W2)	7,8	
9	⑧ Tension arm assembly	T	2-13-4	(P3)	8	
10	⑨ EXIT guide arm assembly	T	2-13-5	(W1)	—	
11	⑩ Swing arm assembly	T	2-13-5	—	—	Position alignment
12	⑪ Sub deck assembly	T	2-13-6	4(S2)	9	Position alignment
13	⑫ Main brake (Sup) assembly	T	2-13-6	(P4), (L10)	—	
14	⑬ Main brake (Take up) assembly	T	2-13-6	(P5), (L11)	—	
15	⑭ Reel disk assembly (Sup)	T	2-13-7	—	—	
16	⑮ Reel disk assembly (Take up)	T	2-13-7	—	—	
17	⑯ Prism	T	2-13-7	(S2)	—	
18	⑰ Control plate	T	2-13-7	2(L12)	—	
19	⑱ Guide rail (Take up) assembly	T	2-13-8	4(S2)	10	Position alignment
20	⑲ Guide rail (Sup) assembly	T	2-13-8	(S2), 2(L13)	10	Position alignment
21	⑳ Base plate assembly	T	2-13-8	(S2), 2(L14)	—	
22	㉑ Ent. guide base assembly	T	2-13-9	(S2)	—	
23	㉒ Worm wheel 2	T	2-13-9	—	11	Phase alignment
24	㉓ Timing belt	T	2-13-9	—	—	
25	㉔ Center gear assembly	T	2-13-9	—	—	
26	㉕ Reel drive pulley assembly	T	2-13-10	(W1)	—	
27	㉖ Push plate	T	2-13-10	(W1)	—	
28	㉗ Clutch lock gear(2)	T	2-13-10	(W3)	—	
29	㉘ Clutch lock gear (1)	T	2-13-10	(P6)	—	
30	㉙ Tension control arm assembly	T	2-13-11	(L15)	12	Position alignment
31	㉚ Brake control arm assembly	T	2-13-11	(W1), (L16)	12	Position alignment
32	㉛ Charge arm assembly	T	2-13-11	(L17)	13	Position alignment
33	㉜ Connect gear 2	T	2-13-12	(S2)	—	(Phase alignment)
34	㉝ Connect gear 2	T	2-13-12	(S2)	—	(Phase alignment)
35	㉞ Rotary encoder assembly	T	2-13-13	2(S2)	14	Phase alignment
36	㉟ Main cam gear	T	2-13-13	(W1)	15	Phase alignment
37	㊱ Arm gear 1 assembly	T	2-13-13	Collar	15,16	Position alignment
38	㊲ Center arm assembly	T	2-13-13	(L18)	15	Position alignment
39	㊳ Sub cam gear	T	2-13-14	(2)	17	Phase alignment
40	㊴ Arm gear 2 assembly	T	2-13-14	—	17	Position alignment
41	㊵ Clutch lock lever assembly	T	2-13-14	(L19)	17,18	Position alignment
42	㊶ Capstan motor	T	2-13-15	(P7), Adjust nut	—	Vertical adjustment
43	㊷ Drum base deck	T	2-13-15	3(S2)	—	

Table 2-12-1

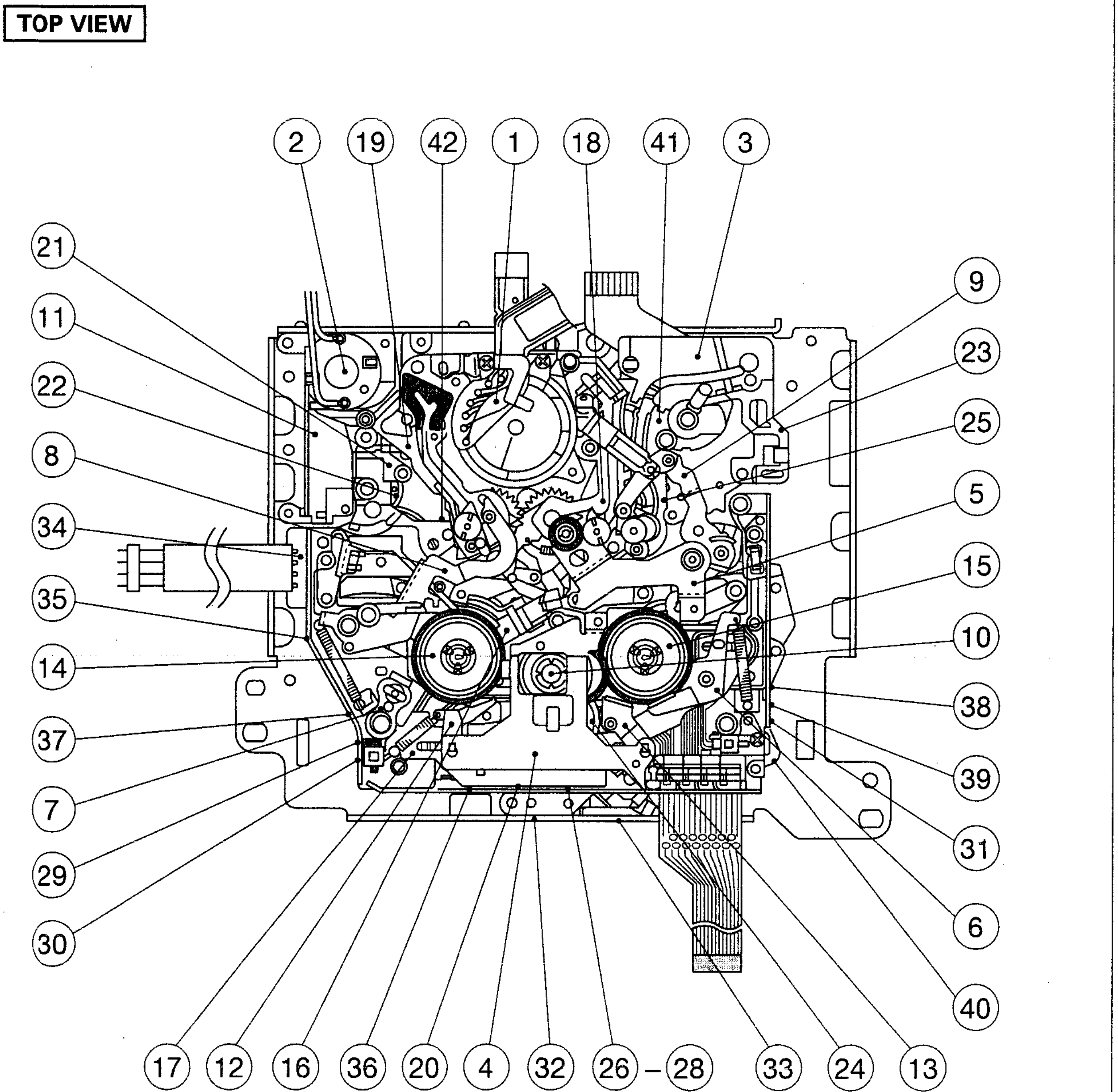

TOP VIEW
26 – 28

Fig. 2-12-1

2.13 DISASSEMBLY/ASSEMBLY

1. Ⓐ Cassette Housing Assembly/ Ⓑ Mechanism Assembly

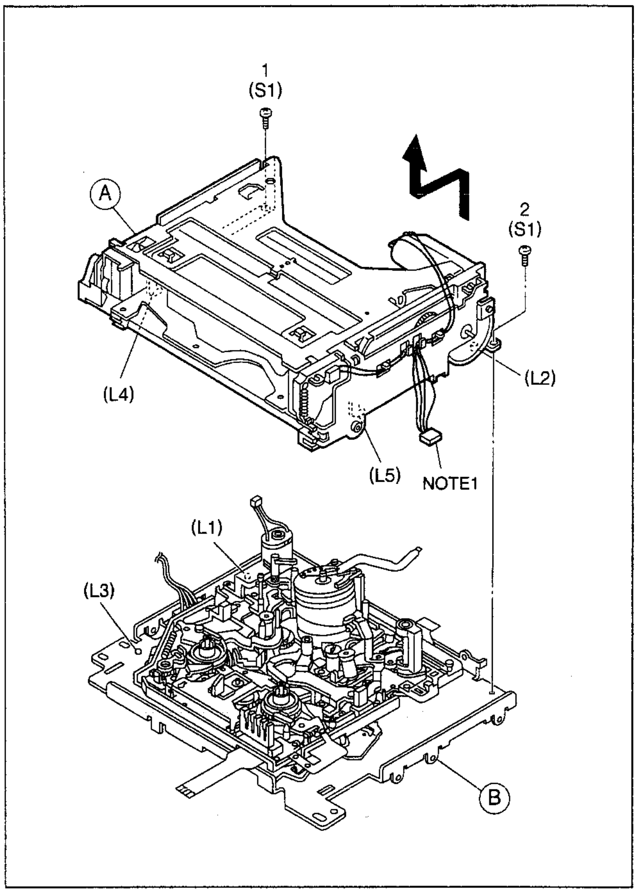

1
(S1)
Ⓐ
2
(S1)
(L2)
(L4)
(L5)
NOTE1
(L1)
(L3)
Ⓑ

Fig. 2-13-1

<NOTE 1>: If the wires for the cassette housing motor are connected to the circuit board, remove them before disassembly.

2. ① Drum assembly / ② Motor bracket assembly

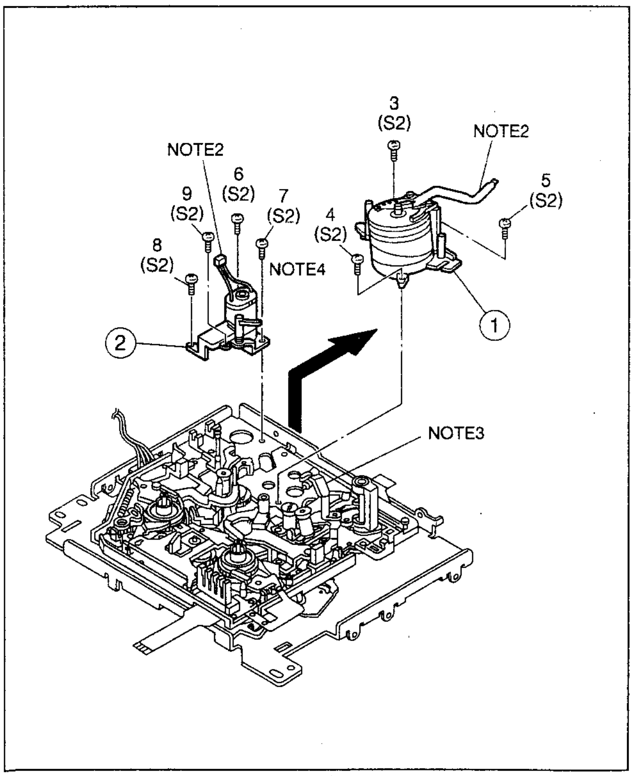

3
(S2)
NOTE2
NOTE2
6
(S2)
9
(S2)
7
(S2)
5
(S2)
4
(S2)
8
(S2)
NOTE4
②
①
NOTE3

Fig. 2-13-2

<NOTE 2>: If wires are connected to the circuit board, remove them before disassembly.

<NOTE 3>: Be careful not to damage the drum assembly when removing it.

<NOTE 4>: The bracket (DV) may come in the way of removal of screw (7). Be sure to remove the bracket before proceeding to the screw removal.

3. ③ Middle Catcher Assembly/④ Reel Cover Assembly

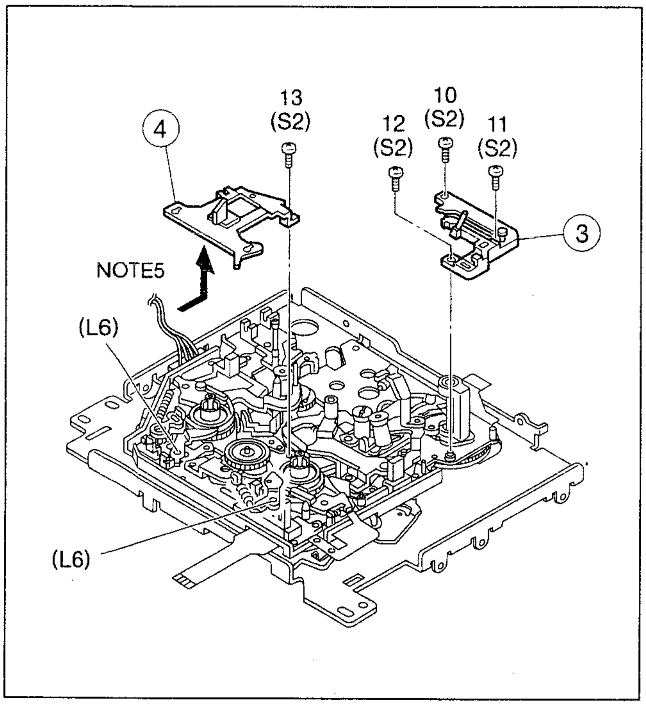

④
13
(S2)
10
12
(S2)
11
(S2)
(S2)
③
NOTE5
(L6)
(L6)

Fig. 2-13-3

<NOTE 5>: Once the reel cover assembly has been removed, the parts located below it tend to slip out easily: Be careful.

4. ⑤ Pinch Roller Arm Assembly/⑥ Sub Brake Assembly/ ⑦ Band Arm Plate Assembly/⑧ Tension Arm Assembly

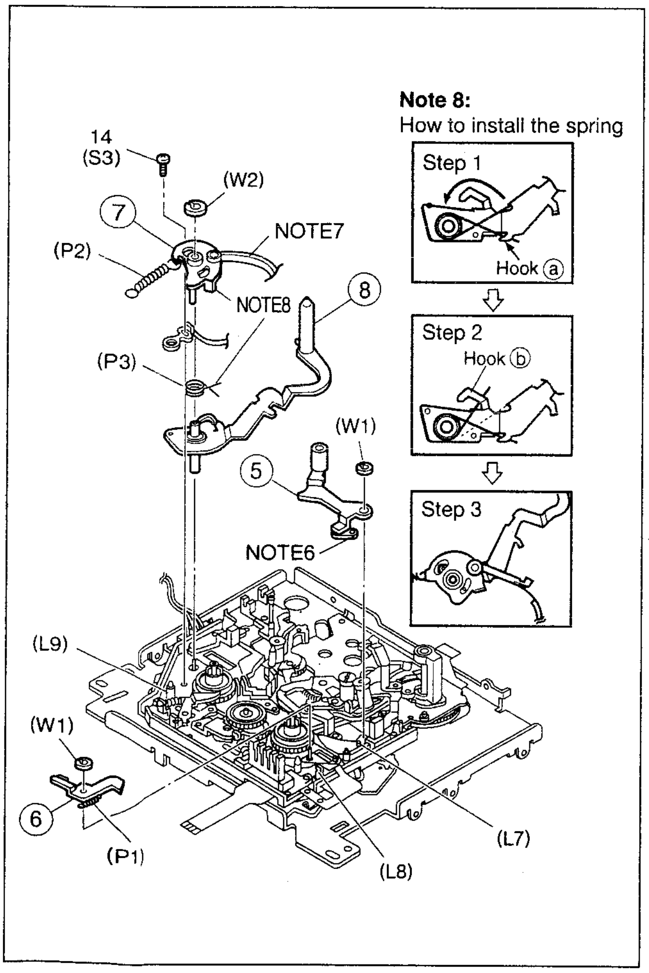

Note 8:
How to install the spring
Step 1
Hook ⓐ
Step 2
Hook ⓑ
Step 3
14
(S3)
(W2)
⑦
NOTE7
(P2)
NOTE8
⑧
(P3)
(W1)
⑤
NOTE6
(L9)
(W1)
⑥
(P1)
(L8)
(L7)

Fig. 2-13-4

<NOTE 6>: When attaching this part, fit it in the boss (L7) on the charge arm assembly.

<NOTE 7>: When attaching or removing this part, take care of the handling of the band section.

<NOTE 8>: After fitting the spring on the shaft, engage it with hook ⓐ first then with hook ⓑ.
After attaching it, set it to the positioning shown in "Step 3" and confirm that band arm plate assembly ⑦ can be rotated in the direction of the arrow as shown below.

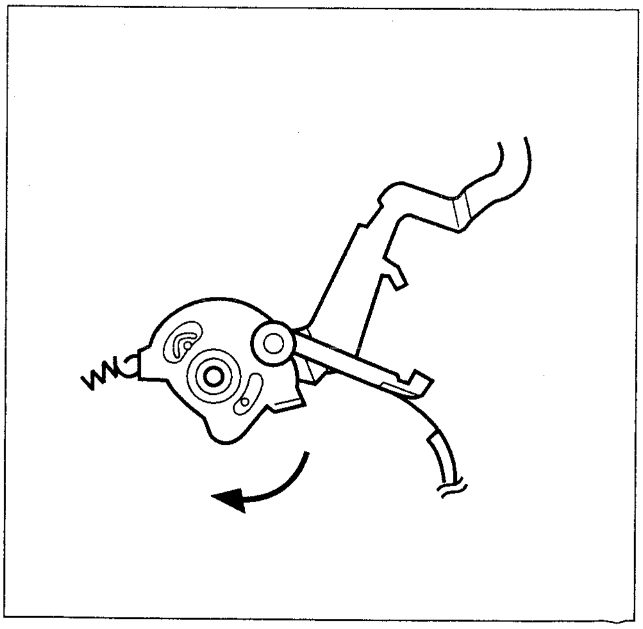


Fig. 2-13-4A

5. ⑨ EXIT Guide Arm Assembly/ ⑩ Swing Arm Assembly

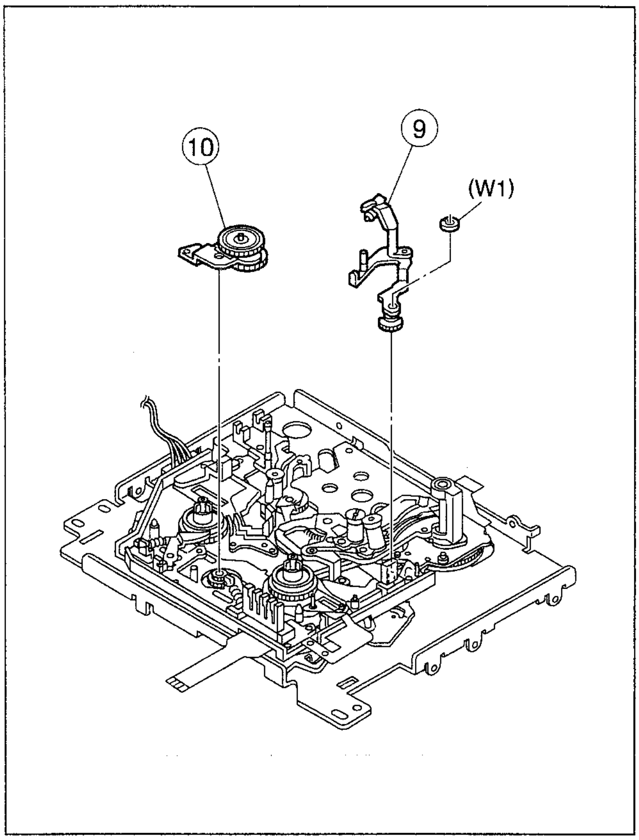


Fig. 2-13-5

6. ⑪ Sub Deck Assembly/ ⑫ Main Brake (SUP) Assembly/ ⑬ Main Brake (TU) Assembly

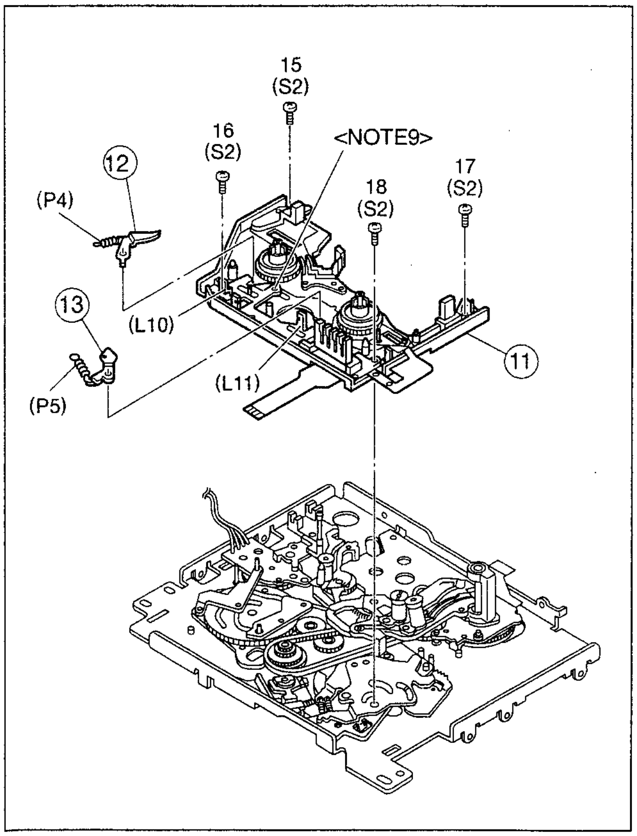

15
(S2)
16
(S2)
<NOTE9>
17
(S2)
18
(S2)
⑫
(P4)
⑬
(L10)
(L11)
⑪
(P5)

Fig. 2-13-6

<NOTE 9>: When attaching the sub deck assembly, make sure to adjust the phase of the control plate.

7. ⑭ Reel disk assembly (Sup) / ⑮ Reel disk assembly (Take up) / ⑯ Prism / ⑰ Control plate

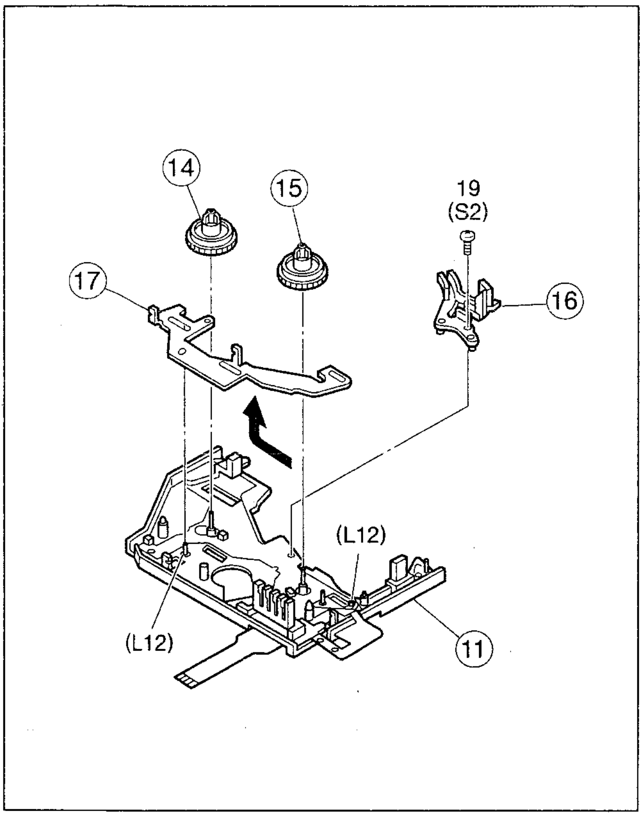

14
15
19
(S2)
17
16
(L12)
(L12)
11

Fig. 2-13-7

8. ⑱ Guide rail (Take up) assembly / ⑲ Guide rail (Sup) assembly / ⑳ Base plate assembly

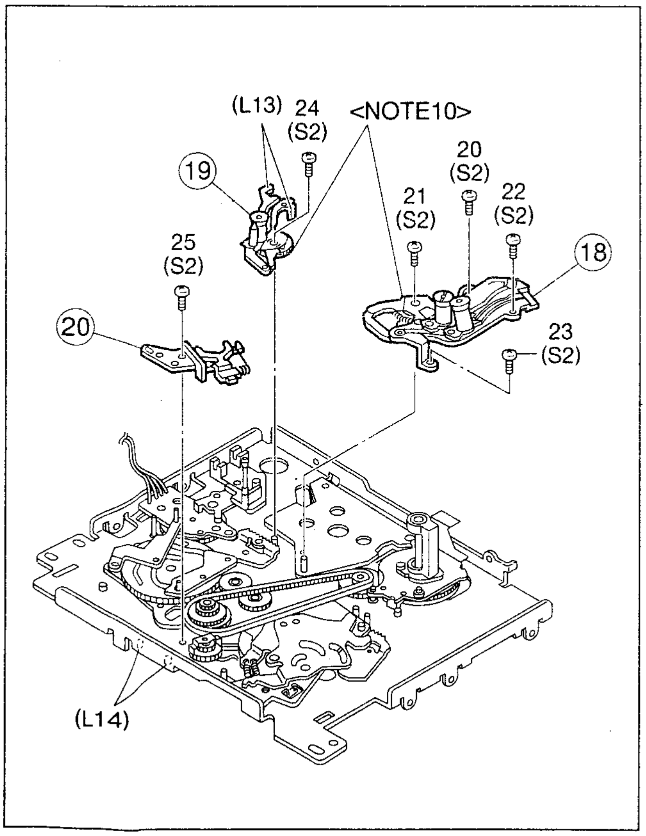

(L13)
24
(S2)
<NOTE10>
19
20
(S2)
21
(S2)
22
(S2)
25
(S2)
18
20
23
(S2)
(L14)

Fig. 2-13-8

<NOTE 10>: When attaching, set the alignment markings of the two gears so that the markings face opposite to each other.

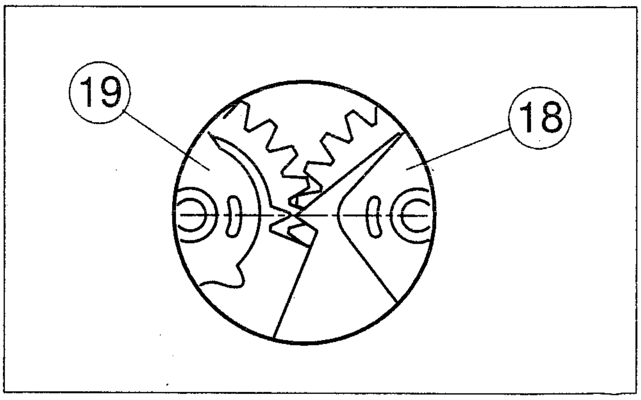


Fig. 2-13-8A

9. ㉑ Ent. guide base assembly / ㉒ Worm wheel 2 / ㉓ Timing belt / ㉔ Center gear assembly

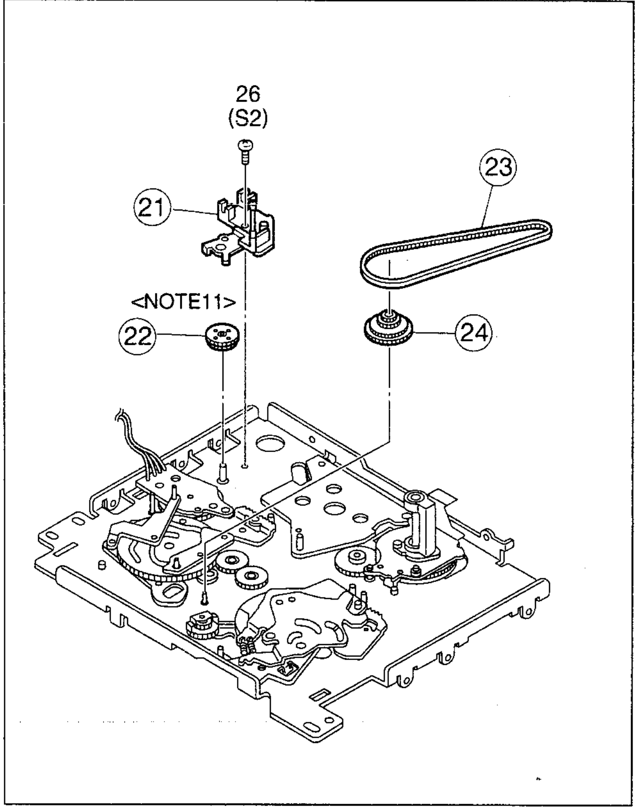
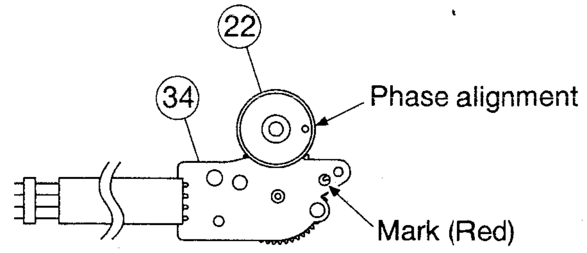


Fig. 2-13-9

<NOTE 11>: How to attach worm wheel 2 ㉒ .


㉒
㉞
Phase alignment
Mark (Red)

Align the phase of the rotary encoder assembly ㉞, then attach it by aligning the phase hole of the mechanism assembly.

Fig. 2-13-9A

10. ㉕ Reel drive pulley assembly / ㉖ Push plate ㉗ Clutch lock gear(2) / ㉘ Clutch lock gear (1)

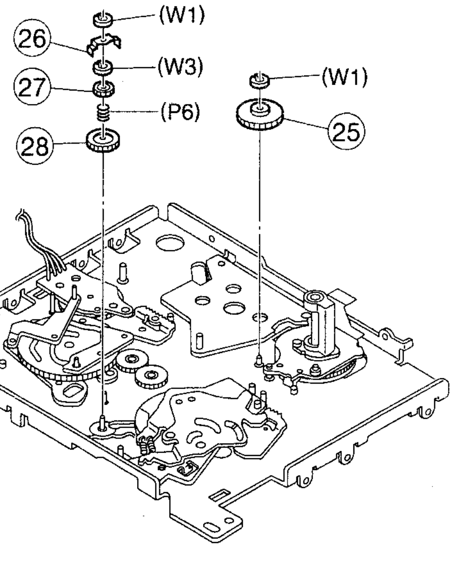

(W1)
㉖
(W3)
㉗
(W1)
(P6)
㉘
㉕

Fig. 2-13-10

11. ㉙ Tension control arm assembly/ ㉚ Brake control arm assembly / ㉛ Charge arm assembly

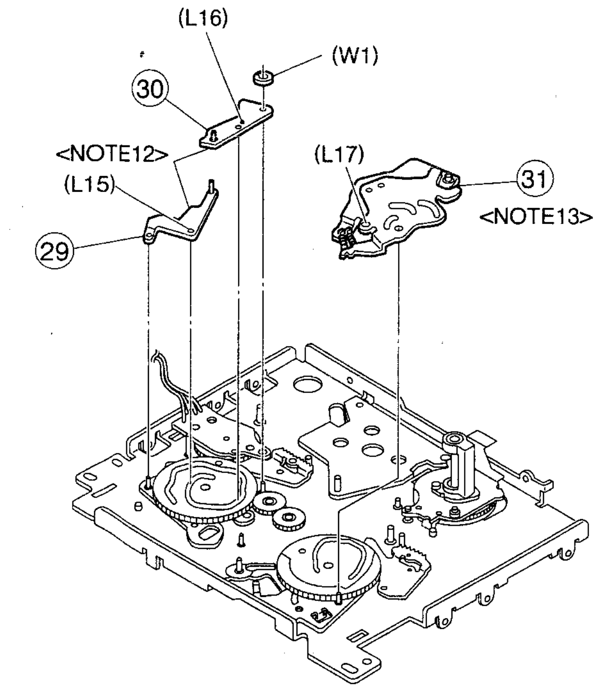
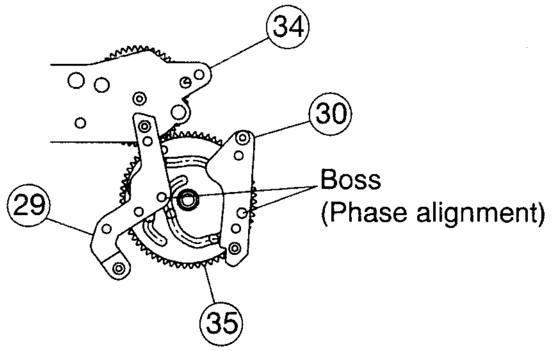

(L16)
(W1)
30
<NOTE12>
(L17)
31
(L15)
<NOTE13>
29

Fig. 2-13-11

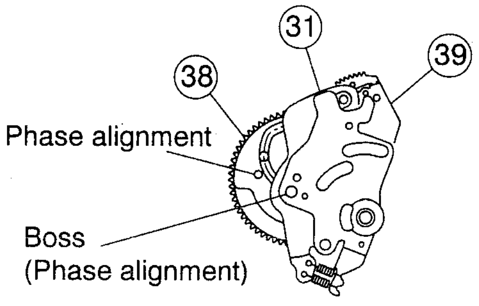
<NOTE 12>: How to attach the tension control arm assembly ㉙ / Brake control arm assembly ㉚ .


34
30
Boss
(Phase alignment)
29
35

Align the phase of the main cam gear ㉟, then attach it by fitting the bosses into the cam slot.

Fig. 2-13-11A

<NOTE 13>: How to attach the charge arm assembly ㉛ .


31
39
38
Phase alignment
Boss
(Phase alignment)

Align the phase of the sub-cam gear ㊳, then attach it by fitting the boss into the cam slot.

Fig. 2-13-11B

12. ㉜ Connect gear 2 / ㉝ Connect gear 2

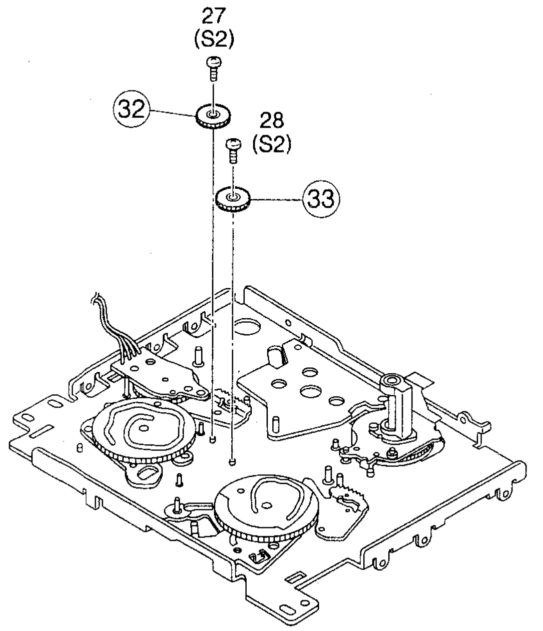

27
(S2)
32
28
(S2)
33

Fig. 2-13-12

13. ㉞ Rotary encoder assembly / ㉟ Main cam gear / ㊱ Arm gear 1 assembly / ㊲ Center arm assembly

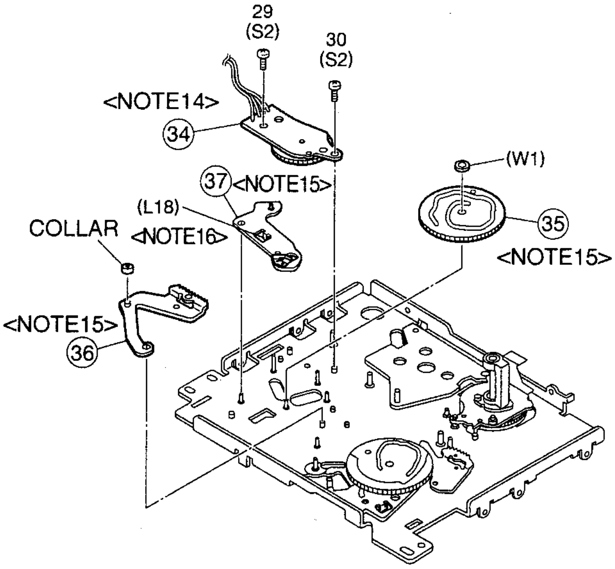
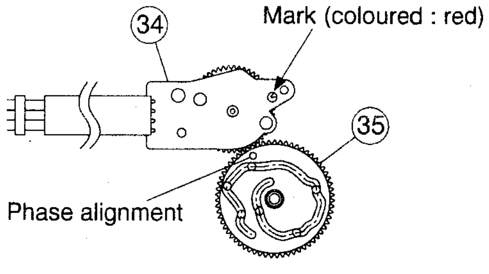

29
(S2)
30
(S2)
<NOTE14>
㉞
(W1)
㊲<NOTE15>
(L18)
COLLAR
<NOTE16>
㉟
<NOTE15>
<NOTE15>
㊱

Fig. 2-13-13

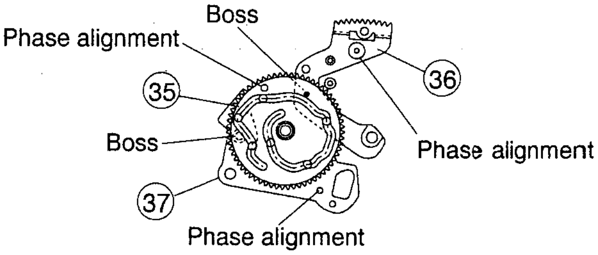
<NOTE 14>: How to attach the rotary encoder assembly ㉞ .


㉞
Mark (coloured : red)
㉟
Phase alignment

Align the phase of the main cam gear ㉟, then attach it by placing the (red) coloured markings (on 2 gear teeth) within the encircled area.

Fig. 2-13-13A

<NOTE 15>: How to attach the main cam gear ㉟ .


Boss
Phase alignment
㉟
㊱
Boss
Phase alignment
㊲
Phase alignment

Align the phases of the arm gear 1 assembly ㊱ and center arm assembly ㊲, then attach the arm gear 1 assembly ㊱ /center arm assembly ㊲ by fitting the bosses into the lower cam slot, and fit the slit washer.

Fig. 2-13-13B

<NOTE 16>: How to remove the center arm assembly ㊲
The center arm assembly is located behind the mechanism assembly when the phase is aligned correctly. The center arm assembly can be removed by displacing it in the direction of the arrow.

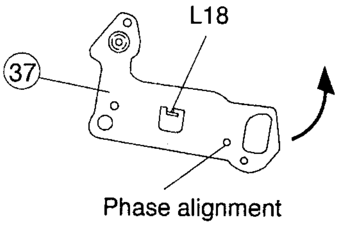

L18
㊲
Phase alignment

Fig. 2-13-13C

14. ㊳ Sub cam gear / ㊴ Arm gear 2 assembly / ㊵ Clutch lock lever assembly

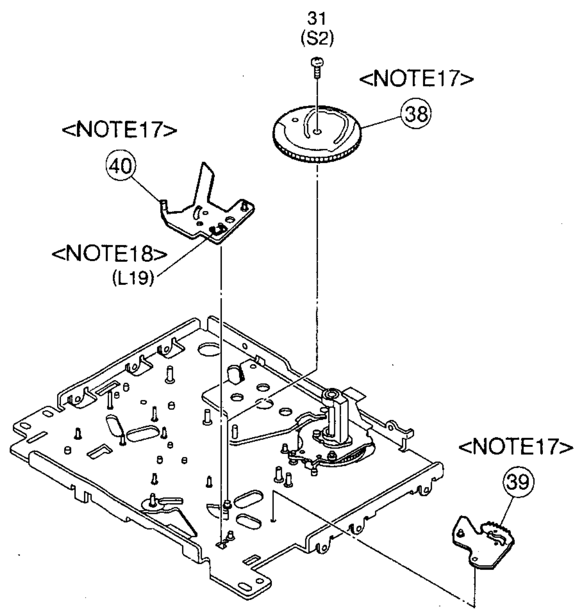

31
(S2)
<NOTE17>
㊳
<NOTE17>
㊵
<NOTE18>
(L19)
<NOTE17>
㊴

Fig. 2-13-14

15. ㊶ Capstan motor / ㊷ Drum base deck

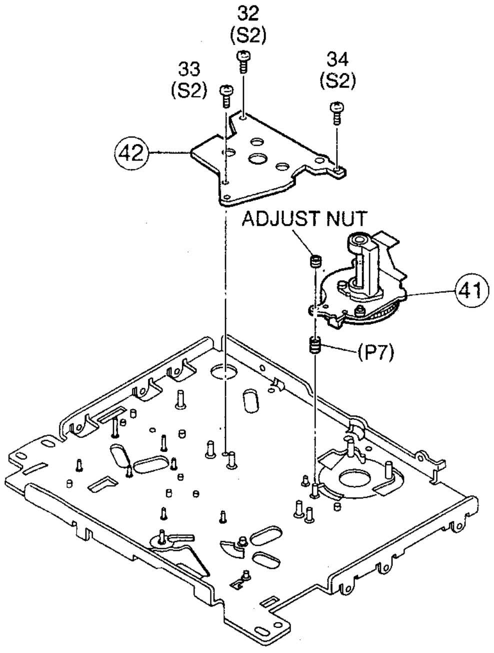
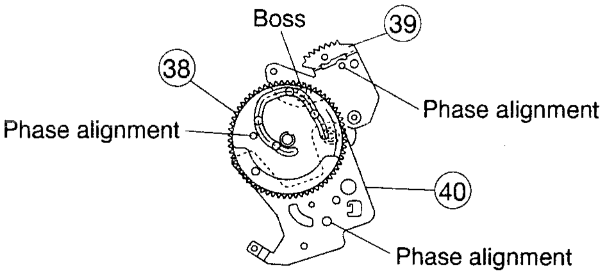

32
(S2)
33
(S2)
34
(S2)
㊷
ADJUST NUT
㊶
(P7)

Fig. 2-13-15

<NOTE 17>: How to attach the sub cam gear ㊳.


Boss
㊴
㊳
Phase alignment
Phase alignment
㊵
Phase alignment

Align the phases of the arm gear 2 assembly ㊴ and clutch lock lever assembly ㊵, then attach them by fitting the boss into the lower cam slot and tighten the screws.

Fig. 2-13-14A

<NOTE 18>: How to remove the clutch lock lever assembly ㊵
L19 is located behind the mechanism assembly when the phase is aligned correctly. The clutch lock lever assembly can be removed by displacing it in the direction of the arrow.

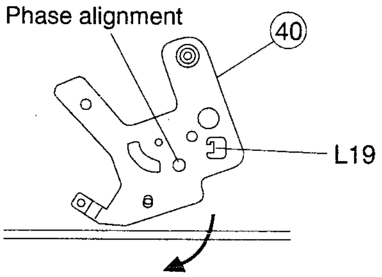
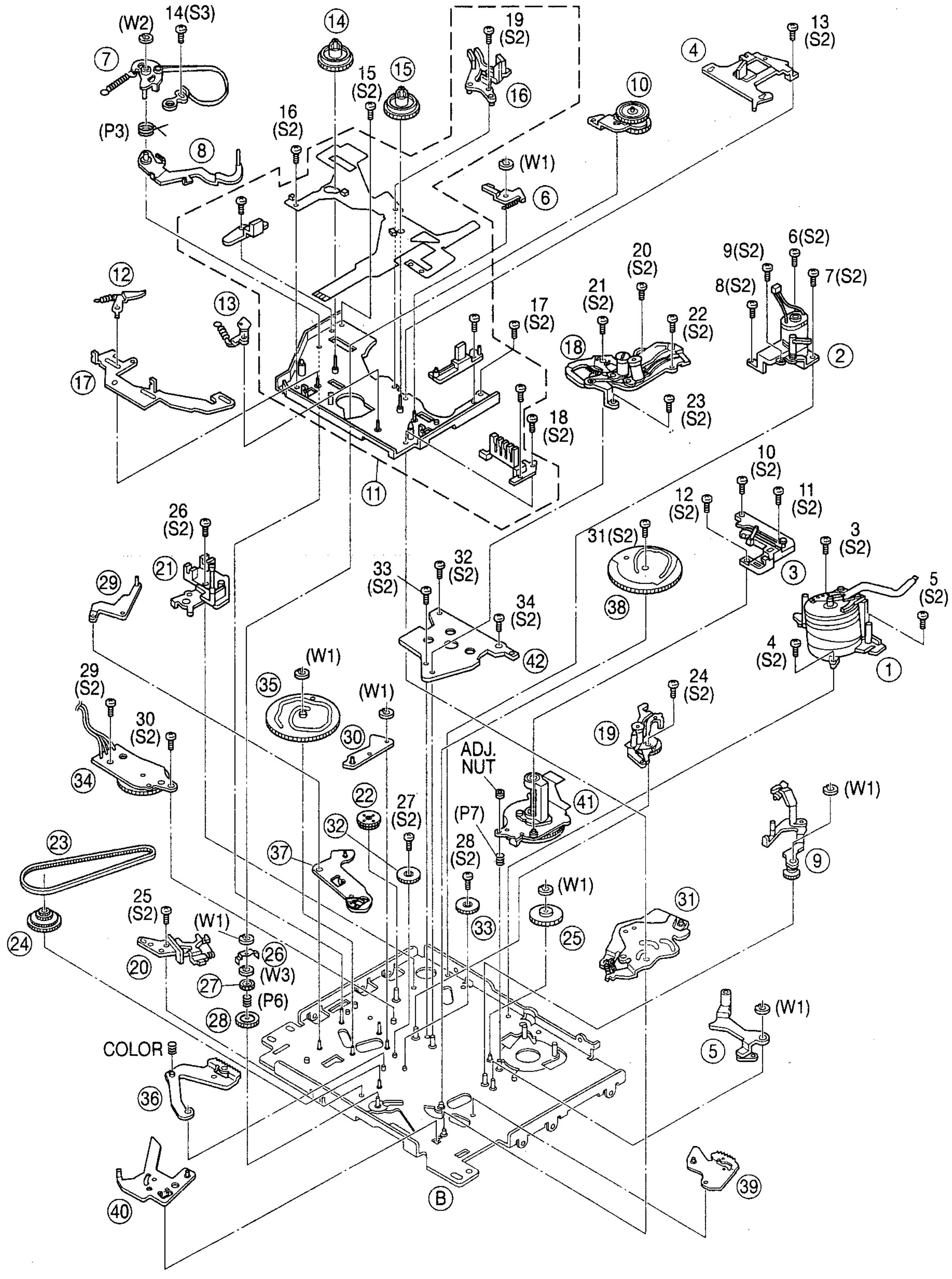

Phase alignment
㊵
L19

Fig. 2-13-14B

2.14 LIST OF PROCEDURES FOR DISASSEMBLY


(W2)
14(S3)
⑦
(P3)
⑧
⑭
15 (S2)
⑮
16 (S2)
19 (S2)
⑯
13 (S2)
④
⑩
(W1)
⑥
⑫
⑬
20 (S2)
21 (S2)
17 (S2)
22 (S2)
9(S2)
6(S2)
8(S2)
7(S2)
⑱
②
⑰
23 (S2)
18 (S2)
⑪
10 (S2)
12 (S2)
11 (S2)
3 (S2)
③
5 (S2)
26 (S2)
31(S2)
㊳
㉙
㉑
33 (S2)
32 (S2)
34 (S2)
㊷
4 (S2)
①
29 (S2)
(W1)
㉟
(W1)
㉚
30 (S2)
24 (S2)
⑲
㉞
ADJ. NUT
㊶
(W1)
⑨
㉓
㉒
27 (S2)
㉜
(P7)
28 (S2)
㊲
(W1)
㉛
25 (S2)
(W1)
㉝
㉕
㉔
㉖
(W3)
⑳
㉗
(P6)
㉘
(W1)
COLOR
⑤
㊱
㊵
Ⓑ
㊴

NOTE: For the greasing and oiling locations, see "SECTION 5 PARTS LIST" (Page 5-6).

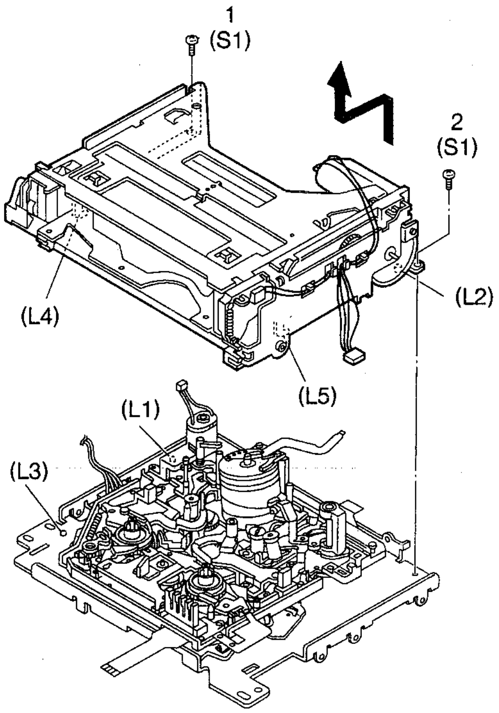
Fig. 2-14-1

2.15 MECHANISM DISASSEMBLY/ASSEMBLY SHEET

Screw Management Table

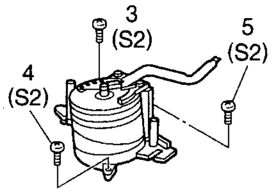
Fig. No.	Ⓐ		①			②				③			④	⑦	⑪			
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Type	S1	S1	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S3	S2	S2	S2	S2
Attachin																		
Ref. Fig.	2-13-1		2-13-2							2-13-3				2-13-4	2-13-6			

Ⓐ Cassette housing assembly


1
(S1)
2
(S1)
(L4)
(L2)
(L5)
(L1)
(L3)

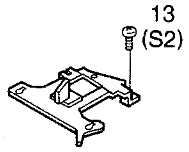
S1×2, L1-L5

① Drum assembly



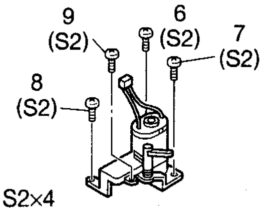
S2×3

④ Reel cover assembly



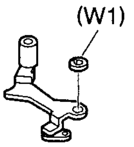
S2, L6×2

② Motor bracket assembly


9
(S2)
6
(S2)
7
(S2)
8
(S2)

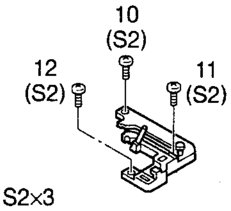
S2×4

⑤ Pinch roller arm assembly



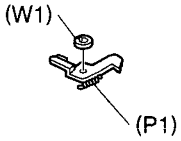
W1, L7

③ Middle catcher assembly


10
(S2)
12
(S2)
11
(S2)

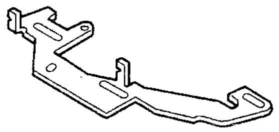
S2×3

⑥ Sub brake assembly



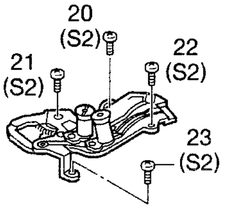
P1, W1, L8

⑰ Control plate



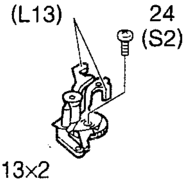
L12×2

⑱ Guide rail (Take up) assembly


20
(S2)
21
(S2)
22
(S2)
23
(S2)

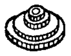
S2×4

⑲ Guide rail (Sup) assembly

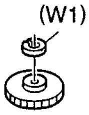


S2, L13×2

㉔ Center gear assembly

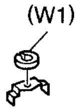


㉕ Reel drive pulley assembly



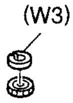
W1

㉖ Push plate



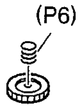
W1

㉗ Clutch lock gear (2)



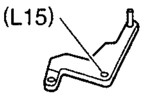
W3

㉘ Clutch lock gear (1)



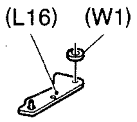
P6

㉙ Tension control arm assembly



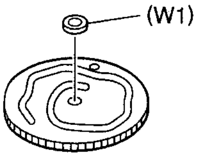
L15

㉚ Brake control arm assembly



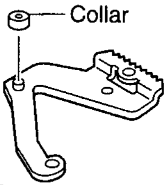
W1, L16

㉟ Main cam gear



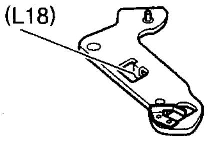
W1

㊱ Arm gear 1 assembly



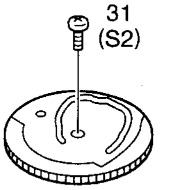
COLLAR

㊲ Center arm assembly



L18

㊳ Sub cam gear

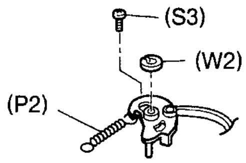


S2

Fig. 2-15-1A

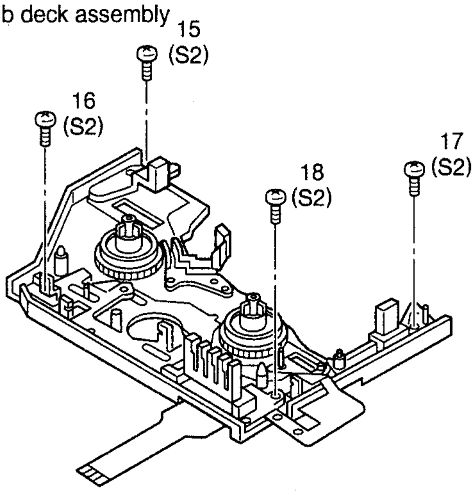
⑯	⑱				⑲	⑳	㉑	㉜	㉝	㉞		㊳	㊷		
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2
2-13-7	2-13-8						2-13-9	2-13-12		2-13-13		2-13-14	2-13-15		

⑦ Band arm plate assembly



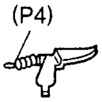
S3, P2, L9, W2

⑪ Sub deck assembly


15
(S2)
16
(S2)
17
(S2)
18
(S2)

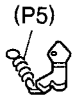
S2×4

⑫ Main Brake(Sup) assembly



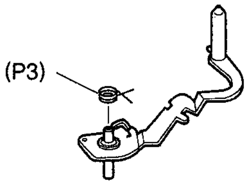
P4, L10

⑬ Main Brake(Take up) assembly



P5, L11

⑧ Tension arm assembly

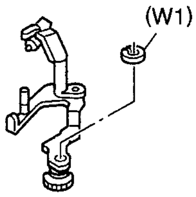


P3

⑭ Reel disk assembly (Sup)

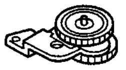
⑮ Reel disk assembly (Take up)

⑨ EXIT guide arm assembly

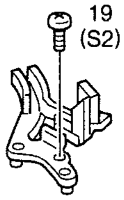


W1

⑩ Swing arm assembly

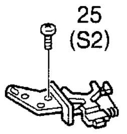


⑯ Prism



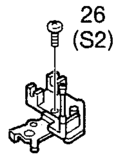
S2

⑳ Base plate assembly



S2, L14×2

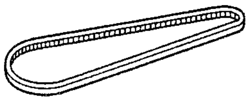
㉑ Ent. guide base assembly



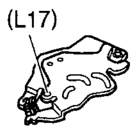
S2

㉒ Worm wheel 2

㉓ Timing belt

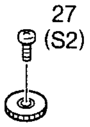


㉛ Charge arm assembly



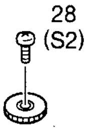
L17

㉜ Connect gear 2



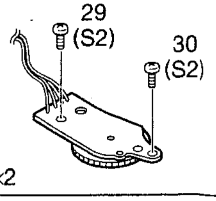
S2

㉝ Connect gear 2



S2

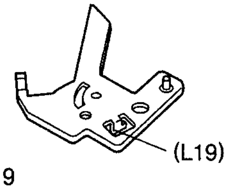
㉞ Rotaly encoder assembly



S2×2

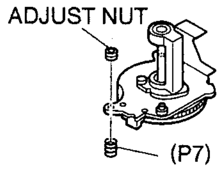
㊴ Arm gear 2 assembly

㊵ Clutch lock lever assembly



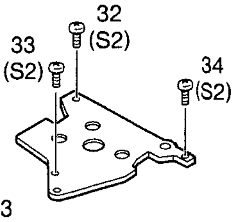
L19

㊶ Capstan motor


ADJUST NUT
(P7)

ADJUST NUT, P7

㊷ Drum base deck

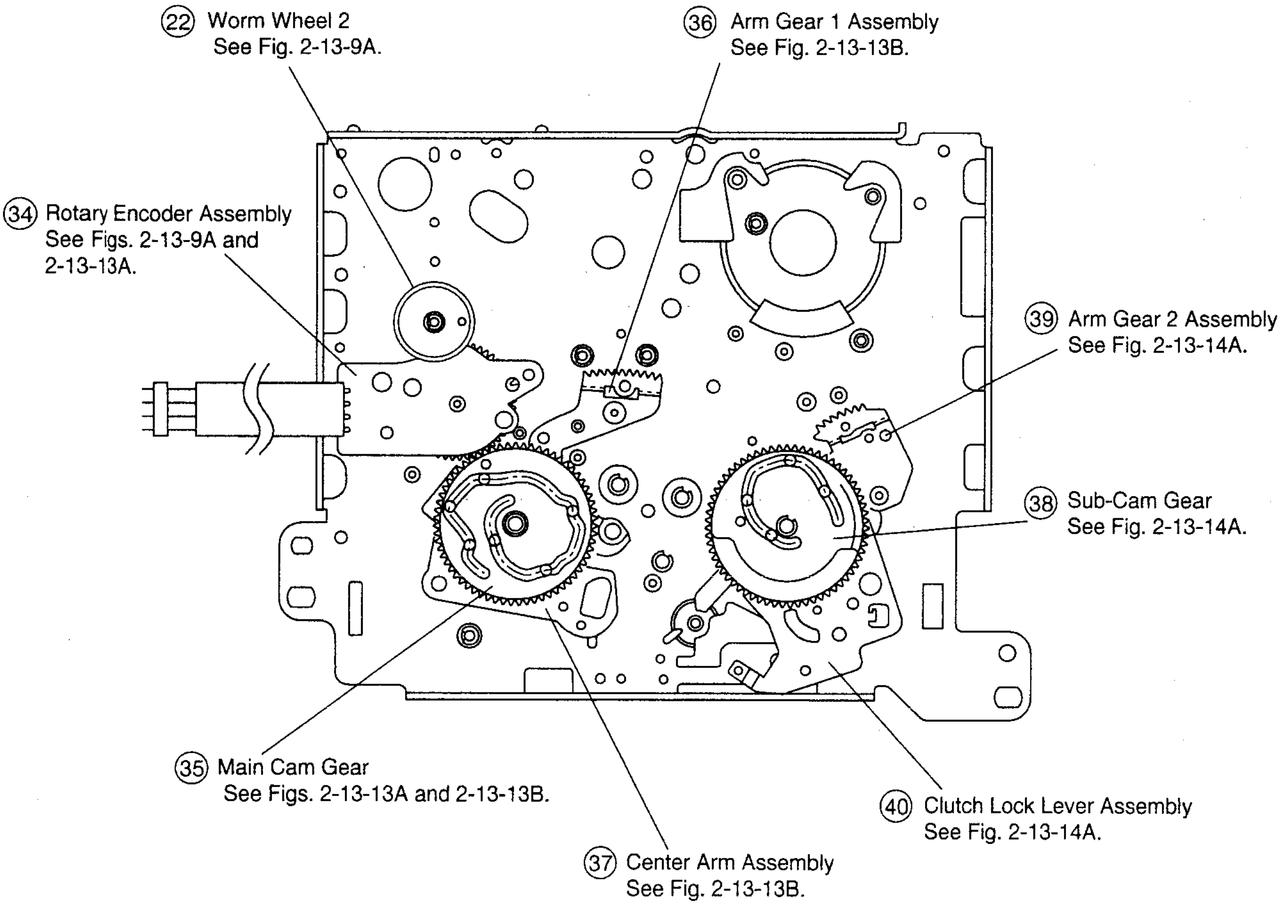

32
(S2)
33
(S2)
34
(S2)

S2×3

Fig. 2-15-1B

2.16 MECHANISM PHASE CHECK/ADJUSTMENT

See Fig. 2-16-1.



㉒ Worm Wheel 2
See Fig. 2-13-9A.
㊱ Arm Gear 1 Assembly
See Fig. 2-13-13B.
㉞ Rotary Encoder Assembly
See Figs. 2-13-9A and
2-13-13A.
㊴ Arm Gear 2 Assembly
See Fig. 2-13-14A.
㊳ Sub-Cam Gear
See Fig. 2-13-14A.
㉟ Main Cam Gear
See Figs. 2-13-13A and 2-13-13B.
㊵ Clutch Lock Lever Assembly
See Fig. 2-13-14A.
㊲ Center Arm Assembly
See Fig. 2-13-13B.

Fig. 2-16-1

2.17 POSITIONING THE TENSION POLE

See Fig. 2-17-1.

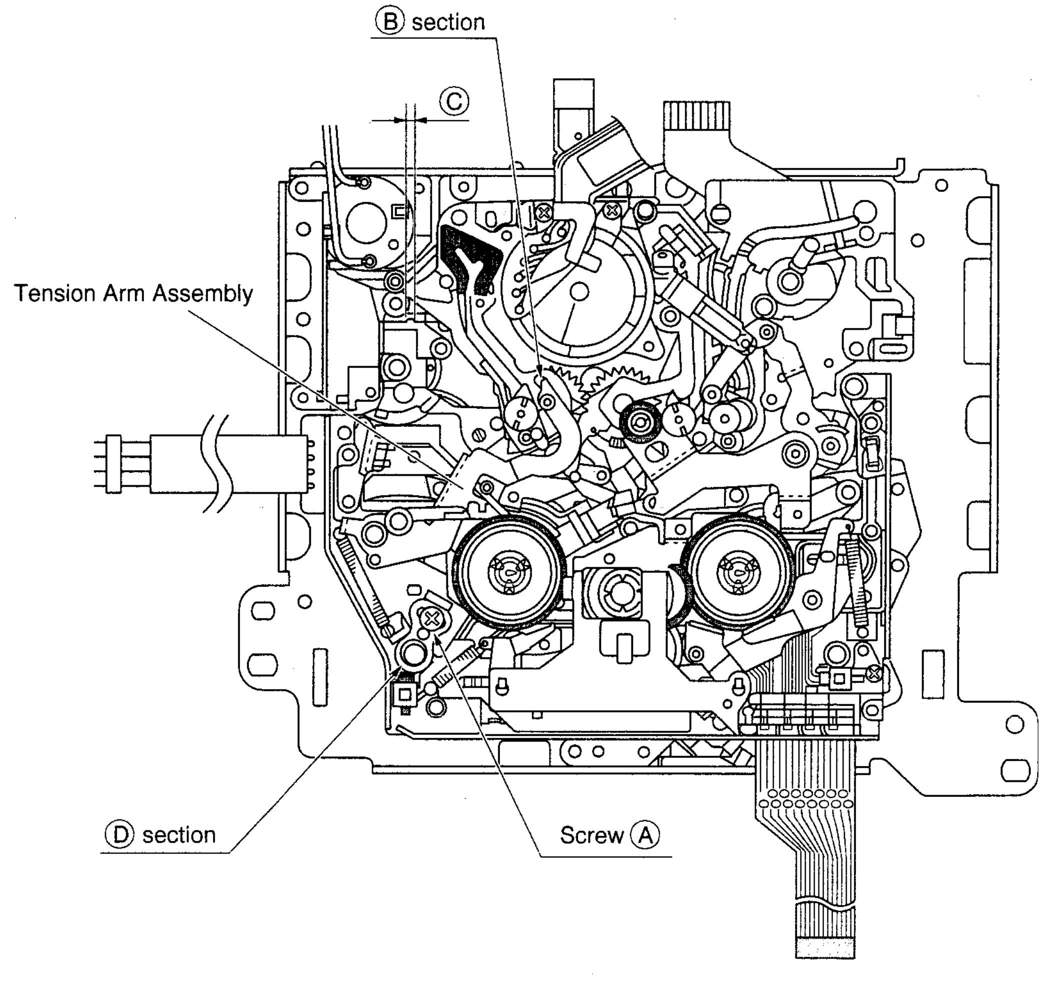


Fig. 2-17-1

Adjustment Method

NOTE: Remove the cassette housing assembly in advance.

1. Set the mechanism mode to the PLAY mode. (See pages 2-20 and 21.)
2. Loosen a screw Ⓐ.
3. Check the location of the tip (section Ⓑ) of the tension arm assembly to make sure that it is within area Ⓒ .
   If it is located outside, turn part Ⓓ to bring it within the specified area.
4. Tighten the screw Ⓐ.

Note : ***Tightening torque for the screwⒶ: 0.06 N·m (0.6 kgf·cm)***

2.18 COMPATIBILITY AND ERROR RATE ADJUSTMENTS

2.18.1 Preparation

Before disassembly and adjustment, back up the data stored in the EEPROM (IC1003 on the DV main board) using the Service Support Software.

Table 2-18-1 shows the important service points for the compatibility and error rate adjustments.

Adjustment Item Service Point	Linearity Adjustment	PB Switching Point Adjustment	Error Rate Adjustmenmt
Drum replacement	Required NOTE 1	Required	Required
Transport part replacement	Required NOTE 1	Not	Check
Transport part (drum) repair	Required NOTE 1	Not	Check
IC9001 (PRE/REC amp on DV PRE/REC board) replacement	Not	Not	Check
IC3501 (PB. EQ on DV PRE/REC board) replacement	Not	Not	Required
DV main board replacement NOTE 2	Not	Required	Required

Table 2-18-1

NOTE 1: The linearity adjustment is required only after servicing or replacing the drum or the take up/supply guide rail.

NOTE 2: After replacing the DV main board, write the original data in the EEPROM of the new board. If write communication is not possible, mount the original EEPROM on the new board.

When adjustments of more than one item are required, use the following order for the adjustments.

2.18.3 Linearity Adjustment

↓

2.18.4 PB Switching Point Adjustment

↓

2.18.5 Error Rate Adjustment

2.18.2 Adjustment

The actual adjustment requires the following preparation.

1. Tools required for adjustment

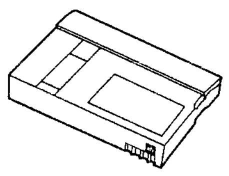
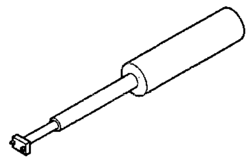
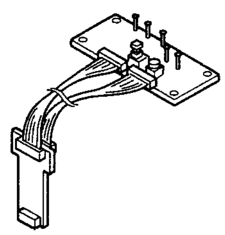
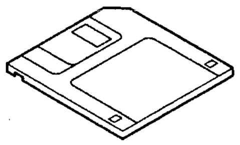
1 Alignment tape MC-2	2 Guide driver YTU94085
	
3 Jig connector cable PTU94018A	4 Service support software PTU94016-1
	

Fig. 2-18-1

2. Procedure

1. Take out the 7 screws (1 to 7), then remove the top cover.
2. Connect the jig connector cable to CN1004 on the DV main board.

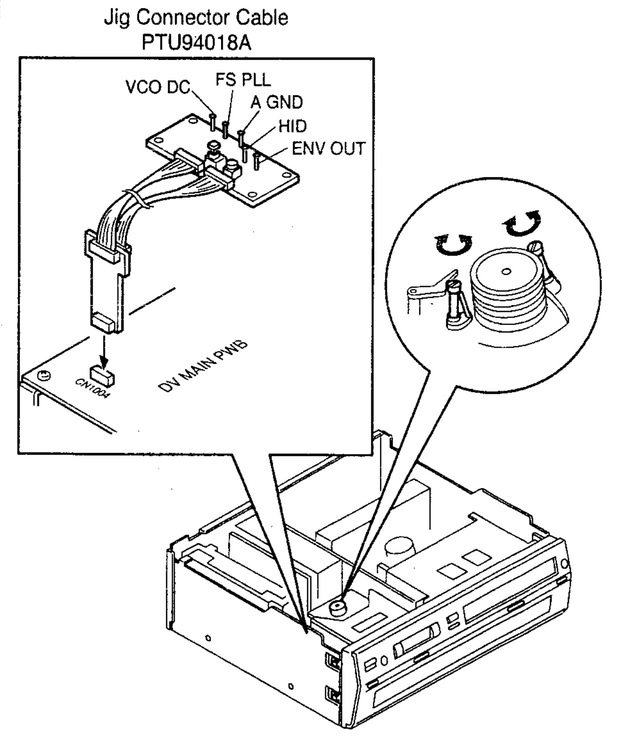
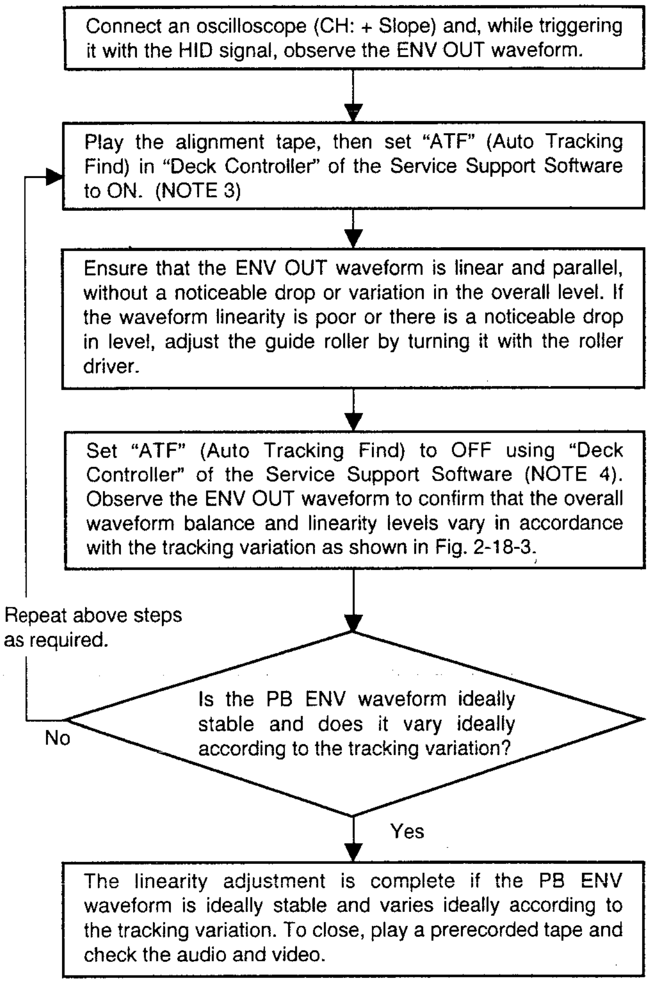


Fig. 2-18-2

2.18.3 Linearity adjustment

The following flowchart shows the linearity check/adjustment procedure.



Connect an oscilloscope (CH: + Slope) and, while triggering it with the HID signal, observe the ENV OUT waveform.

Play the alignment tape, then set "ATF" (Auto Tracking Find) in "Deck Controller" of the Service Support Software to ON. (NOTE 3)

Ensure that the ENV OUT waveform is linear and parallel, without a noticeable drop or variation in the overall level. If the waveform linearity is poor or there is a noticeable drop in level, adjust the guide roller by turning it with the roller driver.

Set "ATF" (Auto Tracking Find) to OFF using "Deck Controller" of the Service Support Software (NOTE 4). Observe the ENV OUT waveform to confirm that the overall waveform balance and linearity levels vary in accordance with the tracking variation as shown in Fig. 2-18-3.

Repeat above steps as required.

Is the PB ENV waveform ideally stable and does it vary ideally according to the tracking variation?

No

Yes

The linearity adjustment is complete if the PB ENV waveform is ideally stable and varies ideally according to the tracking variation. To close, play a prerecorded tape and check the audio and video.

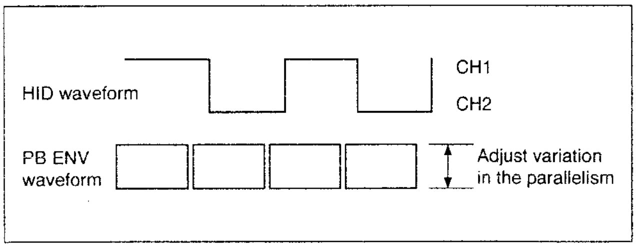


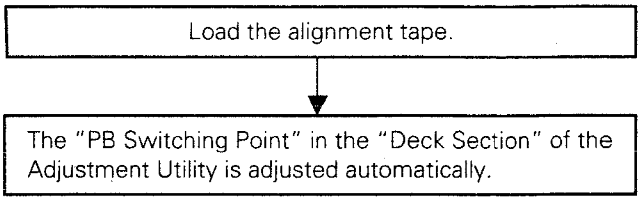
Fig. 2-18-3 PB ENV Waveform

NOTE 3: The VHS section has an A/C head, and the first tracking position can be locked using the CTL pulse and drum FF when AT is off. Therefore, the linearity of the VHS section can usually be adjusted with AT off. However, this adjustment method is not available with the DV section, which does not have the A/C head. If ATF is turned off, the DV section performs tracking only of the speed system. Therefore, as time passes, the servo will be lost and the linearity adjustment will become difficult.

NOTE 4: Since the speed servo function is active when ATF is off, there will be no problem even if the DVC ATF function is off, provided that it is for a few minutes.

2.18.4 PB switching point adjustment

The following flowchart shows the PB switching point adjustment procedure.

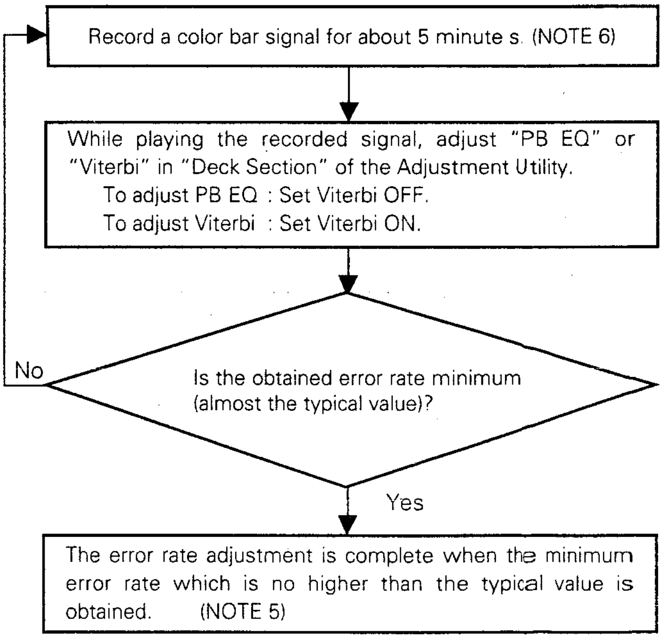


Load the alignment tape.

The "PB Switching Point" in the "Deck Section" of the Adjustment Utility is adjusted automatically.

2.18.5 Error rate adjustment

The following flowchart shows the error rate adjustment procedure.



Record a color bar signal for about 5 minute s. (NOTE 6)

While playing the recorded signal, adjust "PB EQ" or "Viterbi" in "Deck Section" of the Adjustment Utility.
To adjust PB EQ : Set Viterbi OFF.
To adjust Viterbi : Set Viterbi ON.

Is the obtained error rate minimum (almost the typical value)?

No

Yes

The error rate adjustment is complete when the minimum error rate which is no higher than the typical value is obtained. (NOTE 5)

NOTE 5: The "typical value" refers to the following:
CH1 or CH2: < 1500. Total: < 3000, with Viterbi OFF. Inter-channel difference: < 10 times between CH1 and CH2.

NOTE 6: It is desirable to use a brand-new tape or an unused section of tape. This is to assure the adjustment reliability because using a damaged tape increases the error rate.

2.18.6 Error rate measuring method

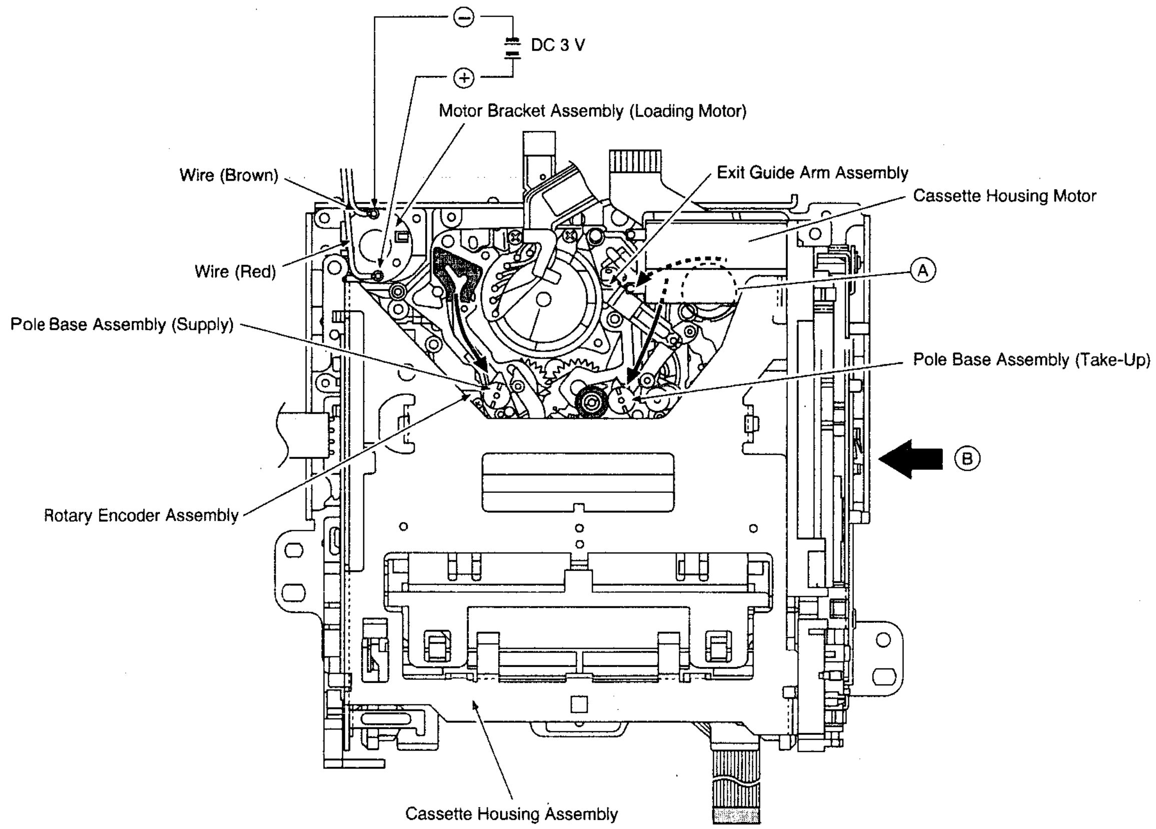
It is not necessary to use the error rate jig (YTU93083) or a frequency counter. The Service Support Software displays the error rates of video CH1, CH2 and totals. When measuring the error rate of a channel, be sure to total the values of the video and the audio errors.

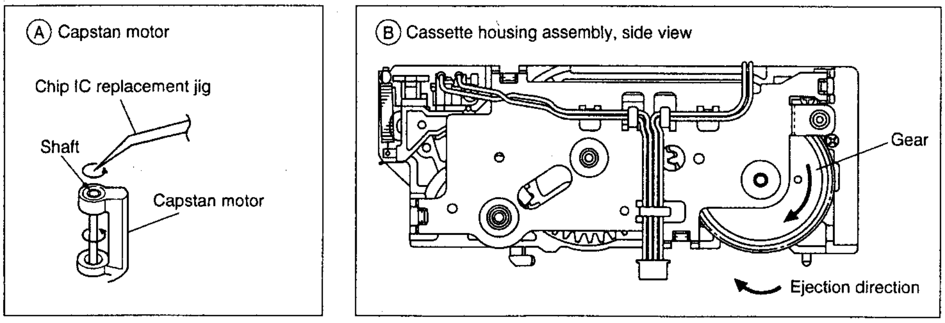
2.19 TAPE EJECTION

If a loaded cassette tape cannot be ejected due to a failure in the electrical circuitry, take the cassette tape out using the following procedure.
However, this method consists of a forced driving of the loading motor. Therefore, the following description assumes that there is no trouble in the mechanism operations.

1. Unplug the power plug from the power outlet, then remove the top cover.
2. Apply 3 V DC to the electrodes (Red wire: + pole. Brown wire: - pole) on the upper part of the loading motor to perform the unloading operation so that the pole base assemblies are returned on the inner side of the tape. At this time, the exit guide arm assembly should return toward the drum assembly and the mechanism should enter the C-IN mode.
   As the tape is left without winding, be careful not to damage the tape or leave grease on it.
3. If the tape is slack, wind it up by turning the shaft on the topside of the capstan motor in the direction of the arrow using a pointed tool (chip IC replacement jig).
   This operation may be difficult because the shaft is located below the housing motor of the cassette housing assembly. Be careful not to damage parts during it.
4. After confirming that the tape is fully wound up, take out the cassette tape by turning the gear of the cassette housing assembly in the direction of the arrow.

NOTE: *After ejecting the tape, check that grease or similar foreign material is not attached to the wound tape. Also perform similar checking for the mechanism assembly, particularly the tape transport system.*


⊖
DC 3 V
⊕
Motor Bracket Assembly (Loading Motor)
Wire (Brown)
Exit Guide Arm Assembly
Cassette Housing Motor
Wire (Red)
Ⓐ
Pole Base Assembly (Supply)
Pole Base Assembly (Take-Up)
Ⓑ
Rotary Encoder Assembly
Cassette Housing Assembly


[3] Tape winding

[4] Tape ejection
Ⓐ Capstan motor
Chip IC replacement jig
Shaft
Capstan motor
Ⓑ Cassette housing assembly, side view
Gear
Ejection direction

Fig. 2-19-1

SECTION 3
ELECTRICAL ADJUSTMENT (VHS)

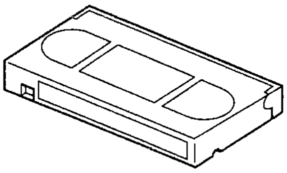
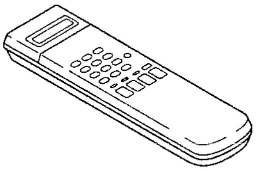
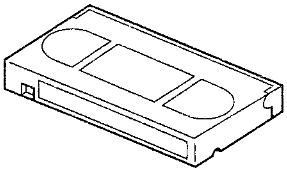
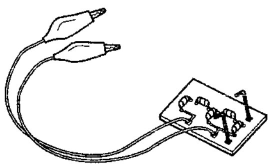
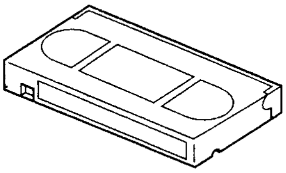
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

① Colour television or monitor
② Oscilloscope: wide-band, dual-trace, triggered delayed sweep
③ Frequency counter
④ Signal generator: RF/IF sweep/marker
⑤ Signal generator: PAL colour bar, stairstep
⑥ Recording tape (VHS tape/S-VHS tape)
⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep) MHPE	Jig RCU PTU94023B
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, stairstep) MHP	
	

3.1.3 Colour bar signal,colour bar pattern

- PAL colour bar signal

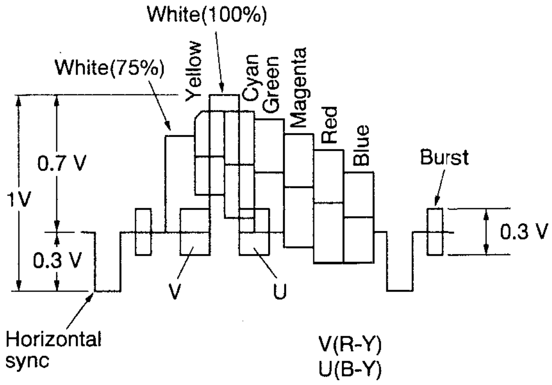

White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1V
0.3 V
0.3 V
V
U
Horizontal sync
V(R-Y)
U(B-Y)

Fig.3-1-1 PAL colour bar signal waveform

- PAL colour bar pattern

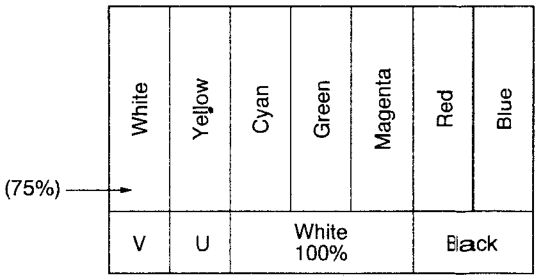

White
Yellow
Cyan
Green
Magenta
Red
Blue
(75%)
V
U
White 100%
Black

Fig.3-1-2 PAL colour bar pattern

Note:
The system control circuit of this model has an automatic recognition about the ON-OFF control of the ***DOCTOR SYSTEM.***

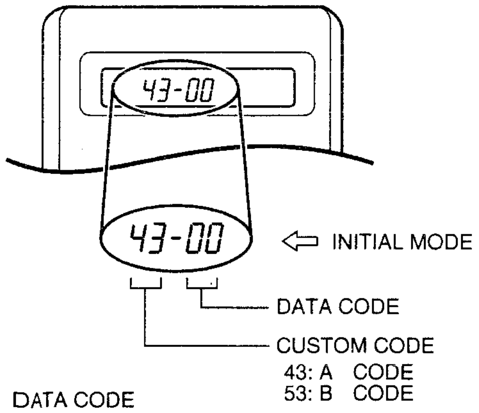
3.2 SERVO CIRCUIT

Notes: • *Unless otherwise specified,all measurement points and adjustment parts are located on the MAIN BOARD.*

3.2.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep • Alignment tape [MHP], Stairstep
Mode	• PB • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(D.FF)
Adjustment tool	• Jig RCU [PTU94023B]
Specification	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]

(1) Playback the stairstep signal of the alignment tape [MHPE].
(2) Connect an oscilloscope to VIDEO OUT TERMINAL and TP111 (negative slope), and then observe VIDEO OUT TERMINAL.
(3) Adjust by transmitting the data code "51" or "52" with the Jig RCU so that the switching point becomes 8.0 ± 0.5H from V.sync.
(4) Depress the STOP button.
(5) Playback the stairstep signal of the alignment tape[MHP].
(6) Adjust by transmitting the data code "51" or "52" with the Jig RCU so that the switching point becomes 7.5 ± 0.5H from V.sync.
(7) Depress the STOP button.



DATA CODE
51 : UP
52 : DOWN

[Data transmitting method]
Depress the "⇡" (3) button after the data code is set.

Fig. 3-2-1 Jig RCU

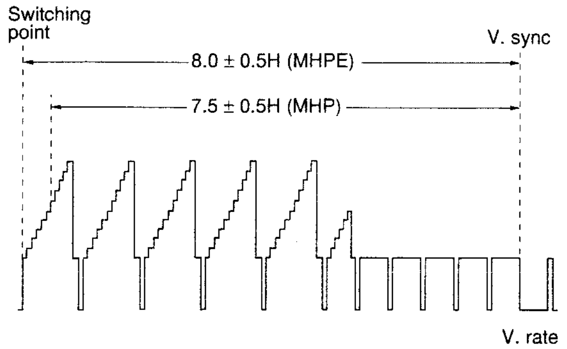
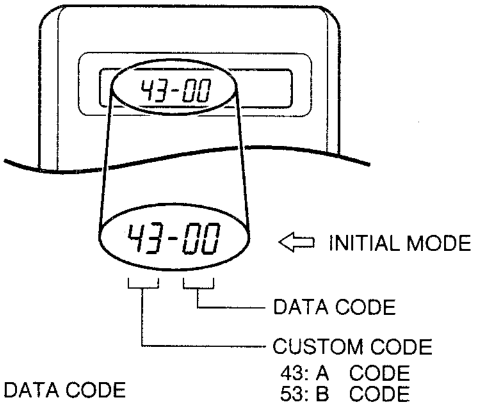


Fig. 3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or colour bar
Mode	• SP/LP : REC → PB(SLOW) • S-VHS
Equipment	• TV-Monitor
Adjustment tool	• Jig RCU [PTU94023B]
Specification	• Minimum noise

(1) Record a colour bar signal in the SP mode.
(2) Playback the recorded signal on the FWD slow mode.
(3) Set the tracking control to the centre position by simultaneously pressing the CH "+" and "−" buttons.
(4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by transmitting the data code "72" or "71" with the Jig RCU.
(5) Depress the STOP button.
(6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
(7) Repeat steps (2) to (6) in the REV slow mode.
(8) Repeat steps (1) to (7) in the LP mode.



DATA CODE
72 : UP
71 : DOWN

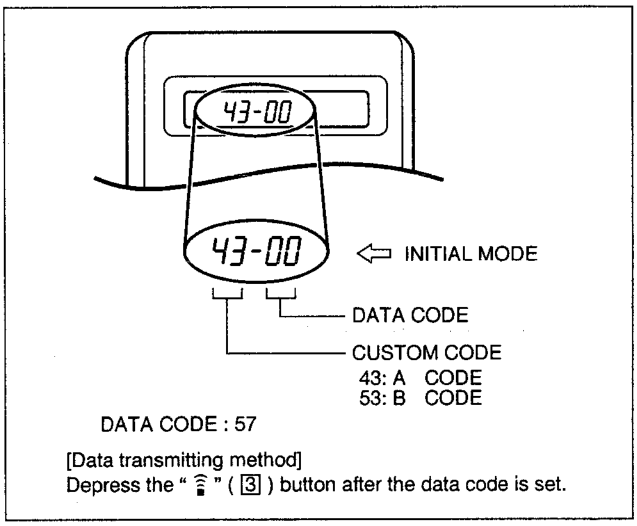
[Data transmitting method]
Depress the "⇡" (3) button after the data code is set.

Fig. 3-2-3 Jig RCU

3.3 VIDEO CIRCUIT

Notes:
- *Unless otherwise specified,all measurement point and adjustment parts are located on the MAIN BOARD.*
- *VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.*
- *S-INPUT means Y/C separated video signal in the chart.*
- *Unless otherwise specified, set the VCR to the following mode.*

B.E.S.T	OFF
PICTURE CONTROL	NORM
DIGITAL TBC/NR	ON



DATA CODE : 57

[Data transmitting method]
Depress the " 📶 " (3) button after the data code is set.

Fig. 3-3-1 Jig RCU

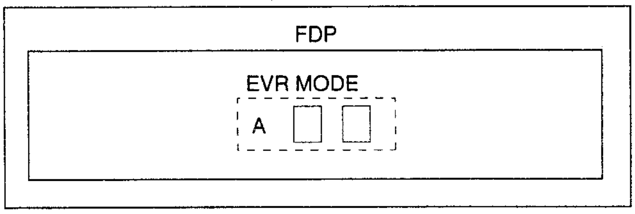


Fig. 3-3-2 EVR mode

3.3.1 EE Y level

Signal	• Colour bar
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Jig RCU [PTU94023B] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by transmitting a data code "57" with the Jig RCU.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.
(4) Adjust the CH "+" or "–" buttons for 1.00 ± 0.03 Vp-p. (See Fig. 3-3-3.)
(5) Set the normal VCR mode by transmitting the data code "57" with the Jig RCU again so adjustment data is memorized.

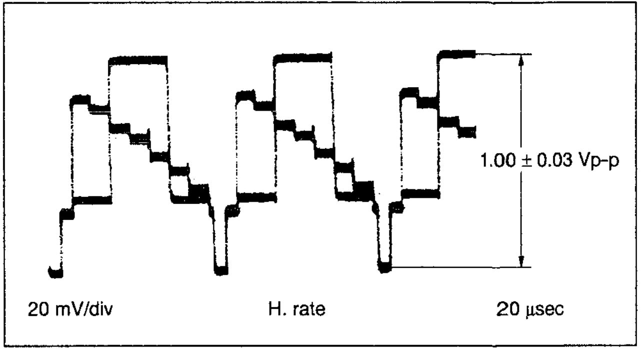


Fig. 3-3-3 EE Y level

3.3.2 SP/EP REC colour level

Signal	• Alignment tape [MH-2H] • Colour bar
Mode	• PB • REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• PB COLOUR
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Jig RCU [PTU94023B] • Digit-key remote controller • LPF fixture [PTU93006]
EVR mode	• A : 2
Specification	• "B" x 150 ± 5% : SP • "B" x 110 ± 5% : LP

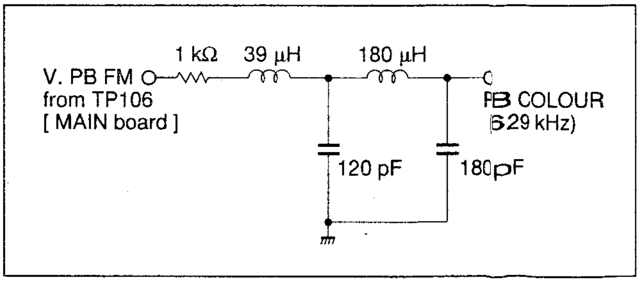


Fig. 3-3-4 LPF

(1) Connect an oscilloscope to PB COLOUR of a LPF (refer to Fig. 3-3-4) and TP111 (negative slope) on the MAIN board.
(2) Playback the SP colour bar signal of the MH2H alignment tape.
(3) Adjust by pressing the CH "+" or "–" buttons of the Front panel for maximum level of the color waveform and make a note of the higher colour level "B".
(4) Press the STOP/EJECT button and eject the MH-2H alignment tape.
(5) Set the EVR mode by transmitting a data code "57" with the Jig RCU.

(6) Set "A : 2" by pressing 2 button of the remote controller.
(7) Before recording, adjust the CH "+" or "–" buttons of the remote controller so that the higher level channel becomes 150 ± 5% : SP (110 ± 5% : LP) of the note "B" level during playback as shown in Fig. 3-3-5.
(8) Record a colour bar signal in the SP (LP) mode, and playback the recorded colour bar signal.
(9) Set the normal VCR mode by transmitting the data code "57" with the Jig RCU again so adjustment data is memorized.

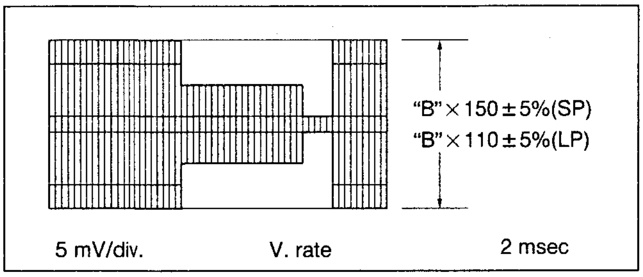


Fig. 3-3-5 REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	• Colour bar
Mode	• REC → PB : SP • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Jig RCU [PTU94023B] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

(1) Connect an oscilloscope to Y OUT TERMINAL.
(2) Set the EVR mode by transmitting a data code "57" with the Jig RCU.
(3) Set "A : 11" by twice pressing 1 button of the remote controller.
(4) Record a colour bar signal in the S-VHS mode, and playback the recorded colour bar signal.
(5) Adjust the CH "+" or "–" buttons for 1.00 ± 0.03 Vp-p as shown in Fig. 3-3-6.
(6) Set the normal VCR mode by transmitting the data code "57" with the Jig RCU again so adjustment data is memorized.
(7) Repeat steps (1) to (6) in the VHS mode.

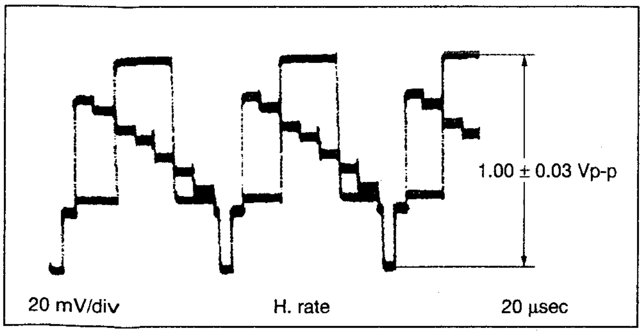


Fig. 3-3-6 PB Y level

3.3.4 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • Picture Control REC : Normal PB : Edit
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Jig RCU [PTU94023B] • Digit-key remote controller
EVR mode	• A : 3
Specification	• 3.6 ± 0.4 scale : SP • 3.2 ± 0.4 scale : LP

(1) Connect an oscilloscope to Y OUT TERMINAL and TP111 (negative slope).
(2) Record a video sweep signal in the S-VHS SP mode, then play it back.
(3) Set the EVR mode by transmitting a data code "57" with the Jig RCU.
(4) Set "A : 3" by pressing 3 button of the remote controller.
(5) When assuming the 100 KHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.6 ± 0.4 scale (–1 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)
(6) Set the normal VCR mode by transmitting the data code "57" with the Jig RCU again so adjustment data is memorized.
(7) Carry out the step (3) and (4) in the S-VHS LP mode.
(8) When assuming the 100 kHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "–" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.2 ± 0.4 scale (–2 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)

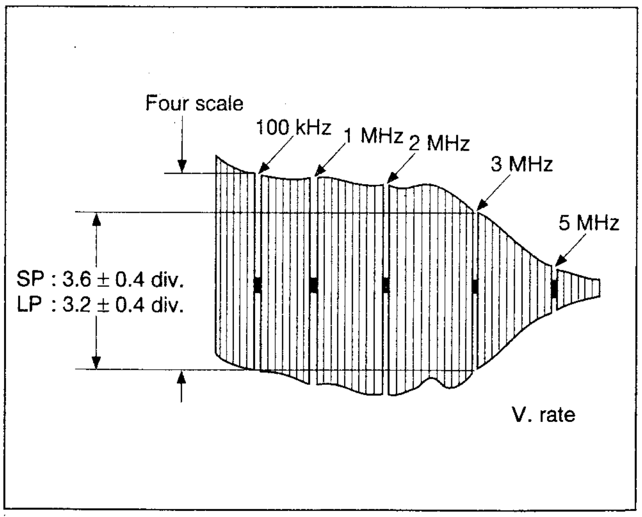


Fig. 3-3-7 S-VHS VIDEO EQ

3.3.5 D/A level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• CN1003-3 pin (Y OUT) [3D SVHS board]
Adjustment part	• VR1401 (D/A LEVEL) [3D SVHS board]
Specification (NOTE)	• 2.05 Vp-p (REFERENCE VALUE)

(1) Connect the oscilloscope to the CN1003-3 pin(Y OUT) on the 3D SVHS board.
(2) Confirm the Y level value during external S input.
(3) Switch the input signal to the external input, then adjust the VR1401 on the 3D SVHS board so that the Y level value becomes the same level value which was confirmed at the step (2).

Note: • *The adjusted value of 2.05 Vp-p is a reference value which should be obtained during external S input. The value should be adjusted to the one which was confirmed at step (2).*

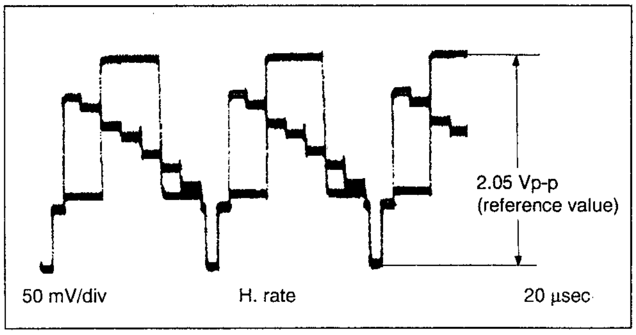


Fig. 3-3-8 D/A LEVEL

3.3.6 Pilot burst level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specification	• "B" x 110 ± 10%

(1) .Connect the oscilloscope to the TP1001 (FSC PHASE) on the 3D SVHS board.
(2) Load an S-VHS tape then set the unit to the S-VHS EE mode.
(3) Adjust the VR1002 of the 3D SVHS so that the pilot burst level becomes "B" x 110 ±10% against the value of the burst level "B".

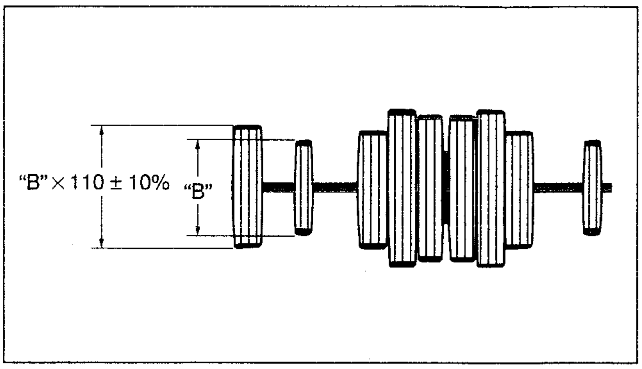


Fig. 3-3-9 PILOT BURST LEVEL

3.3.7 DV EE Y LEVEL

Note: • *This adjustment should be done before the DVC circuit is adjusted.*

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP7101 (DV AGC OUT] [Terminal board]
Adjustment part	• VR7101 (DV AGC) [Terminal board]
Specification (NOTE)	• 1.02 ± 0.02 Vp-p

(1) Connect the oscilloscope to the TP7101(DV AGC OUT) on the Terminal board.
(2) Adjust the VR7101 on the Terminal board so that the Y level value becomes 1.02 ± 0.02 Vp-p.

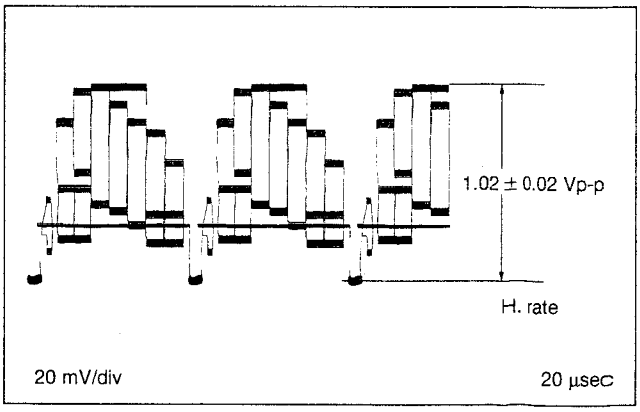


Fig. 3-3-10 DV EE Y LEVEL

3.3.8 Auto picture

Signal	• Monoscope
Mode	• REC → PB : SP/LP • S-VHS
Adjustment tool	• Jig RCU [PTU94023B]
Specification	• STOP mode

(1) Record a monoscope signal in the SP mode.
(2) Playback the recorded signal.
(3) Set the automatic adjustment mode by transmitting a data code "58" with the Jig RCU. Confirm that the VCR will go into the STOP mode automatically.
If ejected, again perform steps (1) to (3).
(4) Repeat steps (2) to (4) in the LP mode.

3.4 AUDIO CIRCUIT

Notes:
- *Unless otherwise specified, all measurement point and adjustment parts are located on the MAIN BOARD.*
- *This adjustment should be done after the video circuit SP and LP REC colour level are adjusted.*
- *GND(Ground) should be taken from the tuner board shield.*

3.4.1 REC FM level

Signal	• AUX • VIDEO : Colour bar • AUDIO : No signal
Mode	• REC → PB : LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP2253 (A. PB FM)
Trigger slope (–)	• TP111 (D. FF)
Adjustment part	• VR2251 (A. REC. FM)
Specification	• 600 ± 100 mVp-p

(1) Connect an oscilloscope to TP2253.
(2) Record a colour bar signal without an audio signal in the S-VHS LP mode then playback.
(3) Adjust VR2251 for 600mVp-p playback level of higher channel level before recording.
(4) Confirm that the lower channel level is more than 400 mVp-p.

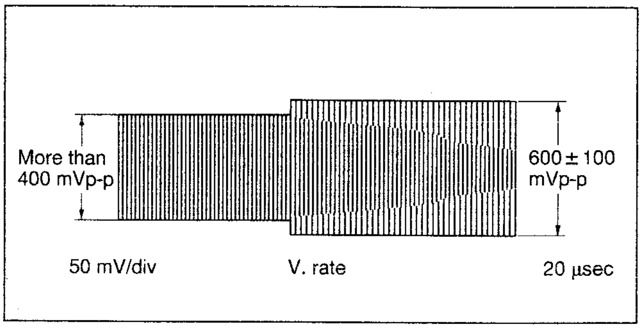


Fig. 3-4-1 Audio REC FM level

ELECTRICAL ADJUSTMENT (DV)

3.5 PREPARATION

3.5.1 Precautions

(1) The DV section of this model is based on a special adjustment method using a PC. However, ordinary adjustment is required only when the part listed below has been replaced. In this case, the adjustment should be performed by a service center equipped with the required facilities.

- E^{2}PROM (IC1003 on DV main board)

In case of trouble with the electrical circuitry, First identify the faulty position with a measuring tool as described below. Proceed to repair, replacement and/or adjustment only after the troubleshooting.

(2) Before adjusting the DV section, make sure that the adjustment in the "3.3.7 DV EE Y LEVEL" (page 3-5) is correct.

(3) When observing a chip TP, use an IC clip or similar tool to protect the chip against stress. When replacing a chip part (IC, particularly), remove solder completely before replacing. (This is to prevent separation of the pattern.)

(4) The connectors are fragile. Be careful when plugging or unplugging a wire.

3.5.2 Equipment required for adjustment

① Personal computer (Windows compatible)
② Colour monitor
③ Oscilloscope (2-CH, 100 MHz or more)
④ Digital voltmeter
⑤ Frequency counter

3.5.3 Tools required for adjustments

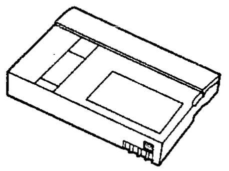
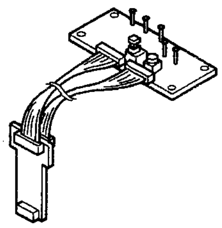
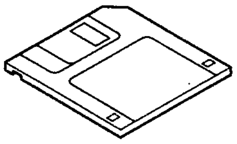
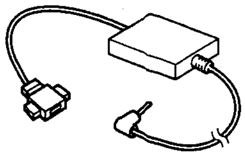
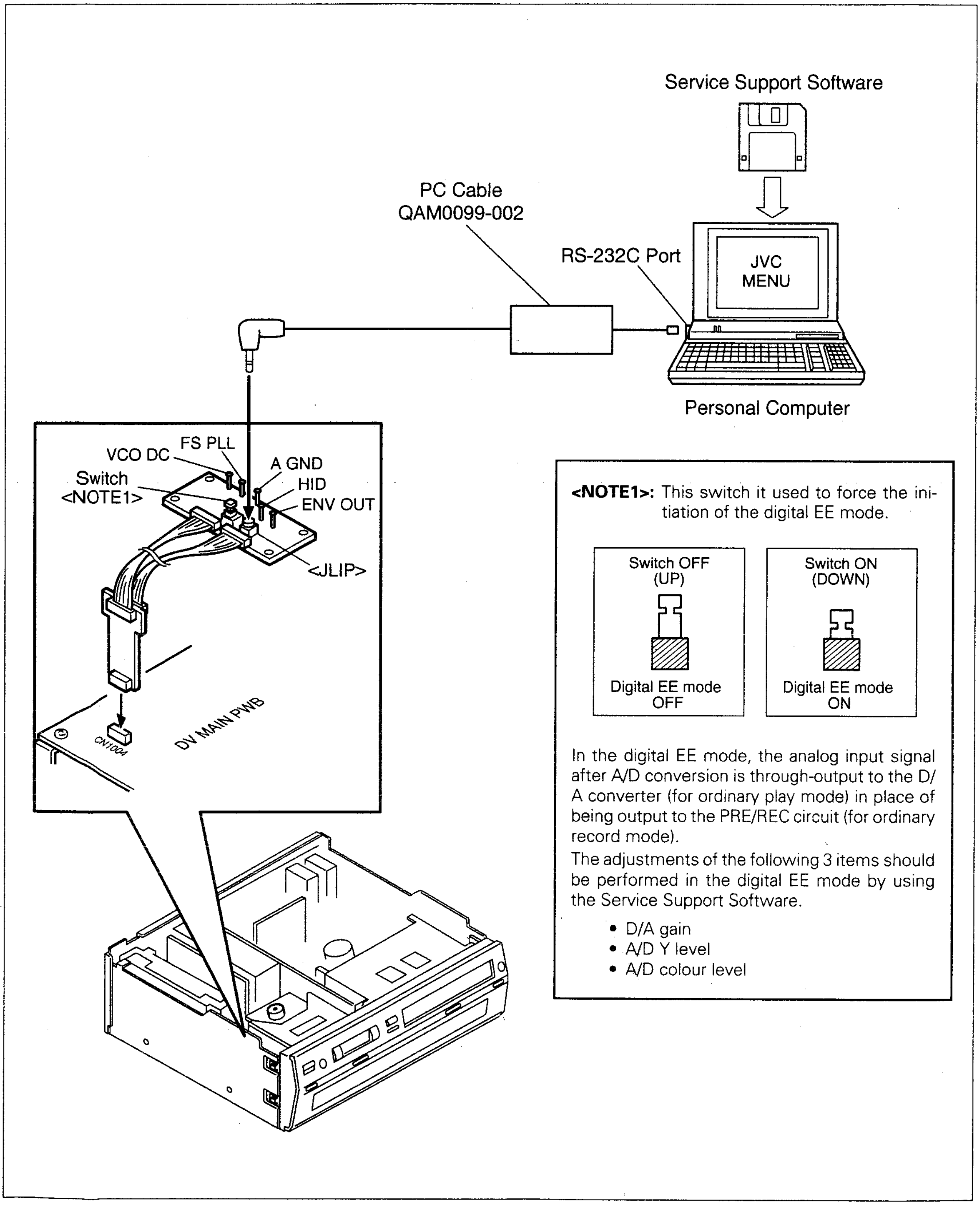
1 Alignment tape MC-2	2 Jig connector cable PTU94018A
	
3 Service support software PTU94016-1	4 PC cable QAM0099-002
	

Fig. 3-5-1

3.5.4 Setup

1. Setup for computer adjustment

— Setup by extending the jig connector —


Service Support Software
PC Cable
QAM0099-002
RS-232C Port
JVC
MENU
Personal Computer
VCO DC
FS PLL
A GND
Switch
<NOTE1>
HID
ENV OUT
<JLIP>
DV MAIN PWB
CN1004
Switch OFF
(UP)
Digital EE mode
OFF
Switch ON
(DOWN)
Digital EE mode
ON

<NOTE1>: This switch it used to force the initiation of the digital EE mode.

In the digital EE mode, the analog input signal after A/D conversion is through-output to the D/A converter (for ordinary play mode) in place of being output to the PRE/REC circuit (for ordinary record mode).
The adjustments of the following 3 items should be performed in the digital EE mode by using the Service Support Software.

- D/A gain
- A/D Y level
- A/D colour level

Fig. 3-5-2 Setup for Computer Adjustment

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

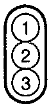
2. Indications of control voltage

AUX : Active at high

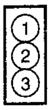
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications

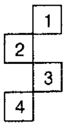
Removable connector



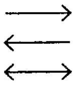
Wire soldered directly on board



Non-removable Board connector



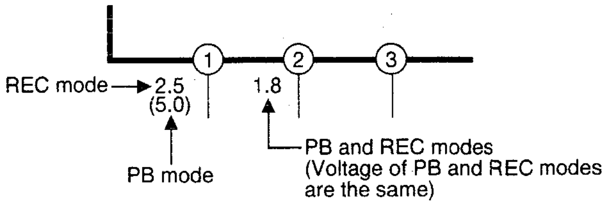
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

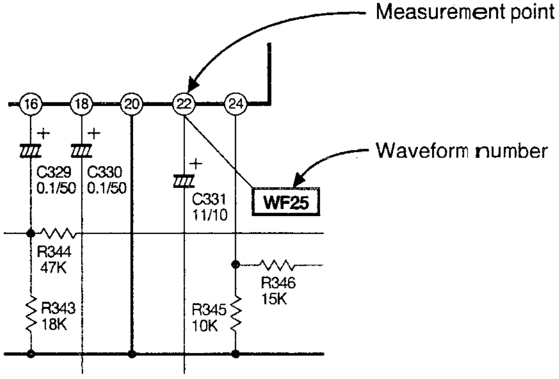
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


①
②
③
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

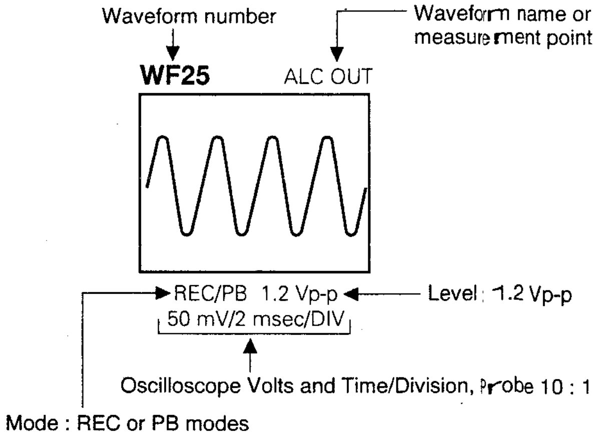
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
Waveform number
⑯
⑱
⑳
㉒
㉔
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R343
18K
R345
10K
R346
15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
Level : 1.2 Vp-p
50 mV/2 msec/DIV
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

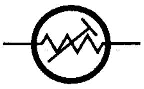
⇨	Playback signal path
⇨▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

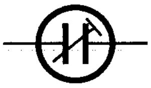
(Example)

⇨ R-Y	Playback R-Y signal path
➡ Y	Recording Y signal path

7. Indication of the parts for adjustments

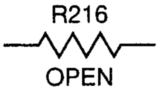
The parts for the adjustments are surrounded with the circle as shown below.





8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



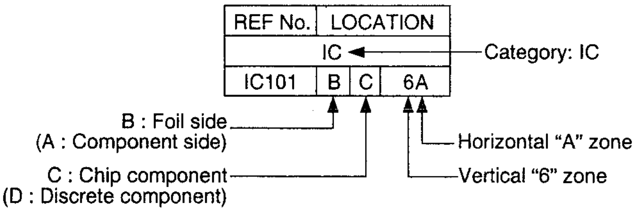
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

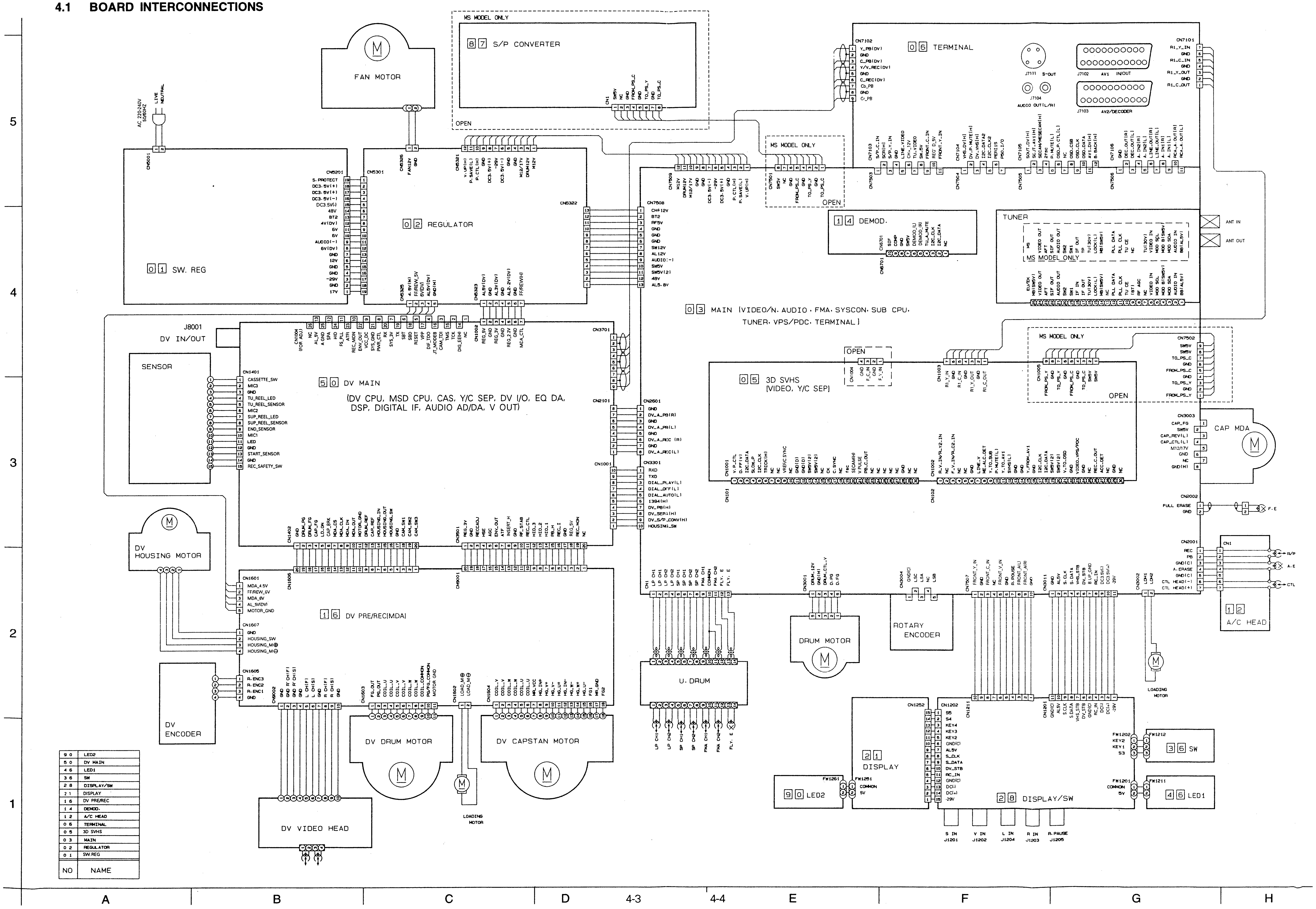
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

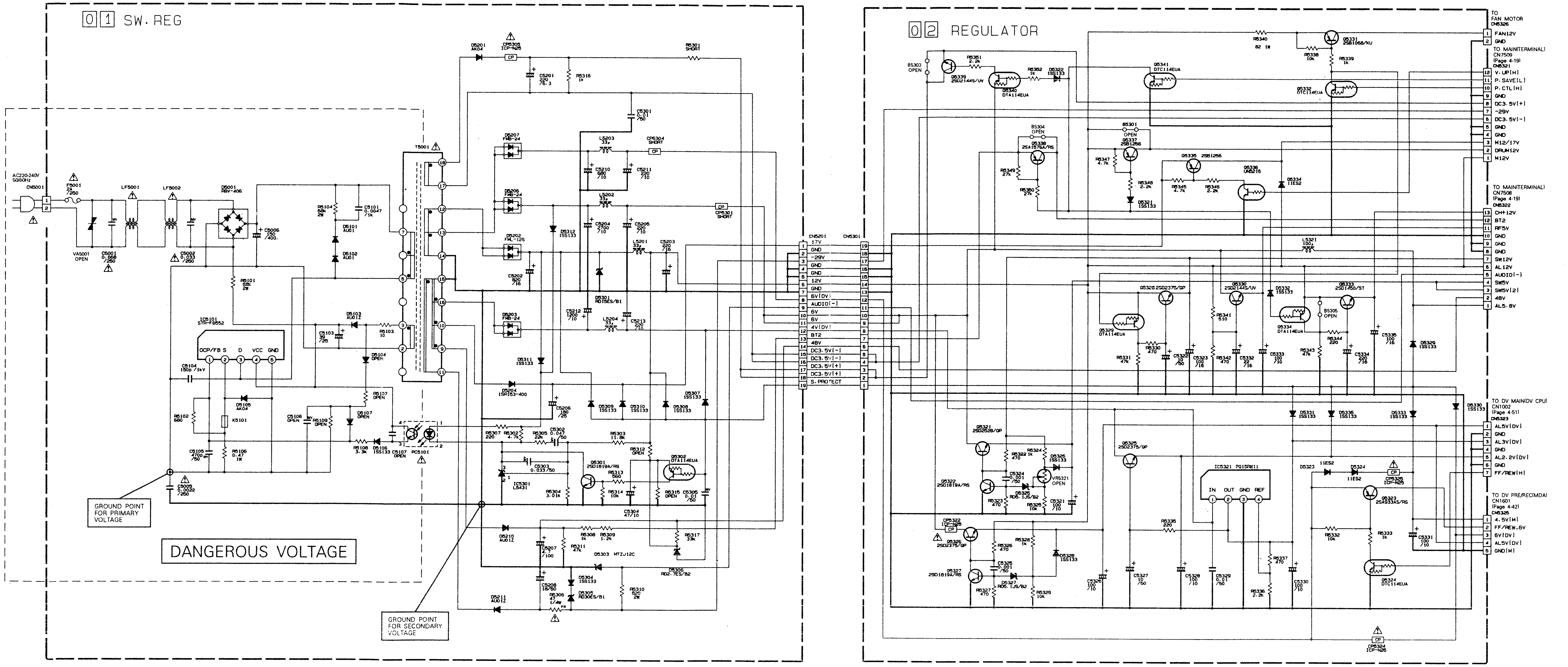


MS MODEL ONLY
87 S/P CONVERTER
OPEN
FAN MOTOR
AC 220-240V 50/60HZ
LIVE
NEUTRAL
01 SW. REG
02 REGULATOR
06 TERMINAL
S-OUT
AV1 IN/OUT
AV2/DECODER
AUDIO OUT(L/R)
14 DEMOD.
TUNER
MS MODEL ONLY
ANT IN
ANT OUT
03 MAIN (VIDEO/N. AUDIO · FMA · SYSCON · SUB CPU · TUNER · VPS/PDC · TERMINAL)
J8001
DV IN/OUT
SENSOR
50 DV MAIN
(DV CPU, MSD CPU, CAS, Y/C SEP, DV I/O, EQ DA, DSP, DIGITAL IF, AUDIO AD/DA, V OUT)
05 3D SVHS (VIDEO, Y/C SEP)
CAP MDA
DV HOUSING MOTOR
16 DV PRE/REC(MDA)
DV ENCODER
DV DRUM MOTOR
DV CAPSTAN MOTOR
LOADING MOTOR
DV VIDEO HEAD
U. DRUM
DRUM MOTOR
ROTARY ENCODER
12 A/C HEAD
F-E
R/P
A-E
CTL
21 DISPLAY
28 DISPLAY/SW
90 LED2
36 SW
46 LED1
S IN J1201
V IN J1202
L IN J1204
R IN J1203
R. PAUSE J1205
A
B
C
D
E
F
G
H
1
2
3
4
5

NO	NAME
9 0	LED2
5 0	DV MAIN
4 6	LED1
3 6	SW
2 8	DISPLAY/SW
2 1	DISPLAY
1 6	DV PRE/REC
1 4	DEMOD.
1 2	A/C HEAD
0 6	TERMINAL
0 5	3D SVHS
0 3	MAIN
0 2	REGULATOR
0 1	SW.REG

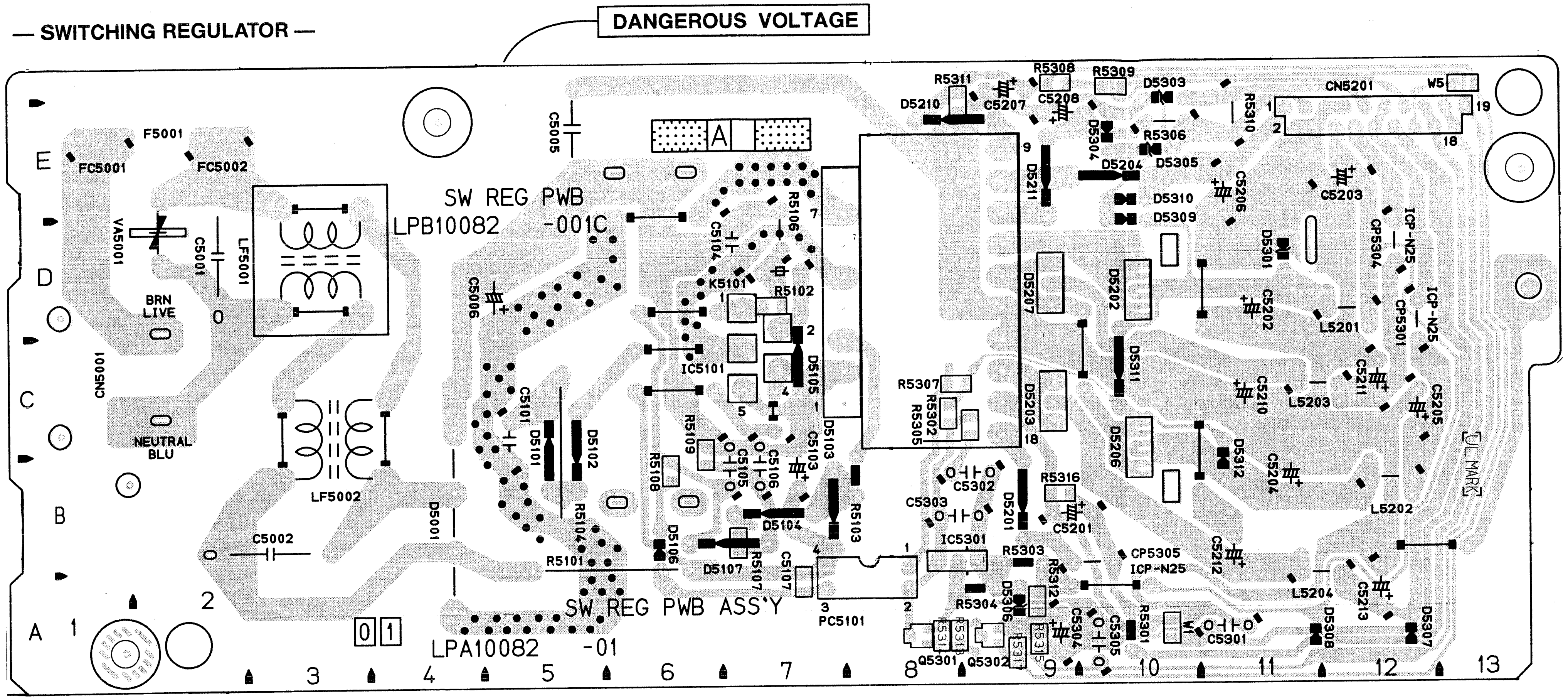
4.2 SWITCHING REGULATOR AND REGULATOR SCHEMATIC DIAGRAMS

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

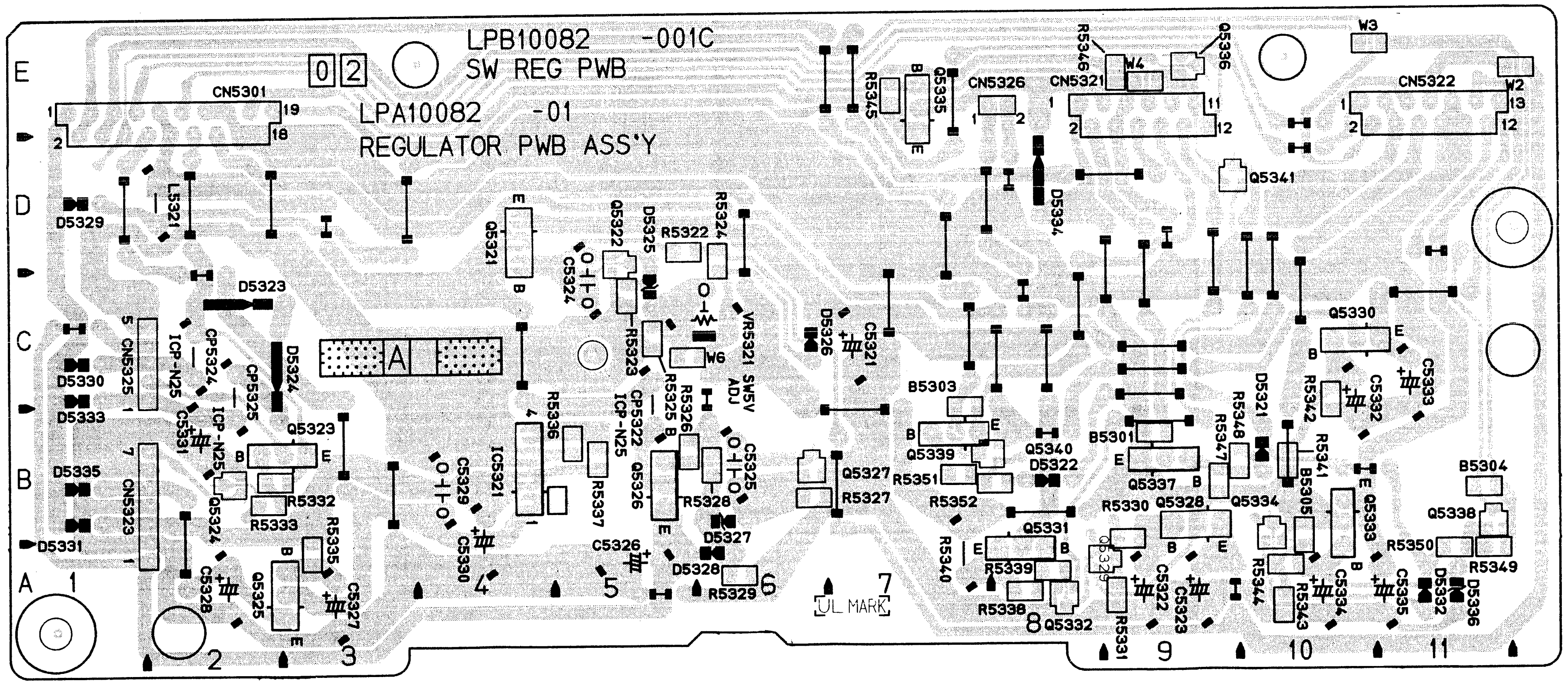

01 SW.REG
02 REGULATOR
DANGEROUS VOLTAGE
GROUND POINT FOR PRIMARY VOLTAGE
GROUND POINT FOR SECONDARY VOLTAGE
AC220-240V 50/60Hz
CN5001
F5001
LF5001
LF5002
D5001 RBV-406
IC5101 STR-F6652
OCP/FB S D VCC GND
T5001
PC5101
IC5301 L5431
IC5321 PQ15RW11
IN OUT GND REF
CN5201
CN5301
17V
GND
-29V
GND
GND
12V
GND
6V(DV)
AUDIO(-)
6V
6V
4V(DV)
BT2
48V
DC3.5V(-)
DC3.5V(-)
DC3.5V(+)
DC3.5V(+)
S.PROTECT
TO FAN MOTOR
CN5326
FAN12V
GND
TO MAIN(TERMINAL)
CN7509
(Page 4-19)
CN5321
V.UP(H)
P.SAVE(L)
P.CTL(H)
GND
DC3.5V(+)
-29V
DC3.5V(-)
GND
GND
M12/17V
DRUM12V
M12V
TO MAIN(TERMINAL)
CN7508
(Page 4-19)
CN5322
CH+12V
BT2
RF5V
GND
GND
GND
SW12V
AL12V
AUDIO(-)
SW5V
SW5V(2)
48V
AL5.8V
TO DV MAIN(DV CPU)
CN1002
(Page 4-51)
CN5323
AL5V(DV)
GND
AL3V(DV)
GND
AL2.2V(DV)
GND
FF/REW(H)
TO DV PRE/REC(MDA)
CN1601
(Page 4-42)
CN5325
4.5V(M)
FF/REW_6V
6V(DV)
AL5V(DV)
GND(M)
D5330 1SS133
5
4
3
2
1
A
B
C
D
E
F
G
H

4.3 SWITCHING REGULATOR AND REGULATOR CIRCUIT BOARDS

— SWITCHING REGULATOR —


DANGEROUS VOLTAGE
SW REG PWB
LPB10082 -001C
SW REG PWB ASS'Y
LPA10082 -01
0 1
A
F5001
FC5001
FC5002
VA5001
C5001
LF5001
BRN
LIVE
CN5001
NEUTRAL
BLU
LF5002
C5002
C5005
C5006
D5001
C5101
D5101
D5102
R5101
R5104
R5108
R5109
IC5101
K5101
R5102
C5104
R5106
D5103
D5105
C5103
C5105
C5106
D5104
D5106
D5107
R5107
C5107
R5103
PC5101
R5307
R5302
R5305
D5210
R5311
C5207
R5308
C5208
R5309
D5303
D5304
R5306
D5204
D5305
D5310
D5309
D5211
D5207
D5202
D5203
D5206
D5311
R5310
CN5201
W5
C5206
C5203
D5301
CP5304
ICP-N25
C5202
L5201
CP5301
C5210
C5211
C5205
L5203
D5312
C5204
L5202
C5303
C5302
R5316
D5201
C5201
IC5301
R5303
R5304
D5306
R5312
C5304
C5305
R5301
CP5305
C5212
L5204
C5213
D5308
D5307
C5301
Q5301
Q5302
R5313
R5314
R5315
R5317
UL MARK
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
12
13

— REGULATOR —


LPB10082 -001C
SW REG PWB
0 2
LPA10082 -01
REGULATOR PWB ASS'Y
CN5301
L5321
D5329
D5323
D5330
D5333
D5335
D5331
CN5325
ICP-N25
CP5324
CP5325
D5324
C5331
Q5323
R5332
R5333
Q5324
CN5323
C5328
Q5325
R5335
C5327
A
Q5321
Q5322
D5325
C5324
R5322
R5324
R5323
W6
VR5321 SW5V ADJ
CP5322
ICP-N25
R5325
R5326
Q5326
C5325
R5328
D5327
D5328
R5329
C5326
IC5321
R5336
R5337
C5329
C5330
D5326
C5321
Q5327
R5327
R5345
Q5335
R5346
CN5326
CN5321
W4
Q5336
D5334
Q5341
W3
CN5322
W2
B5303
Q5339
R5351
Q5340
D5322
R5352
R5340
Q5331
R5339
R5338
Q5332
B5301
Q5337
R5330
Q5328
Q5334
C5322
C5323
R5331
D5321
R5348
R5347
R5342
B5305
Q5333
Q5330
C5332
C5333
R5341
R5344
R5343
C5334
C5335
D5332
D5336
R5350
R5349
Q5338
B5304
UL MARK
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11

COMPONENT PARTS LOCATION GUIDE <SW REG>

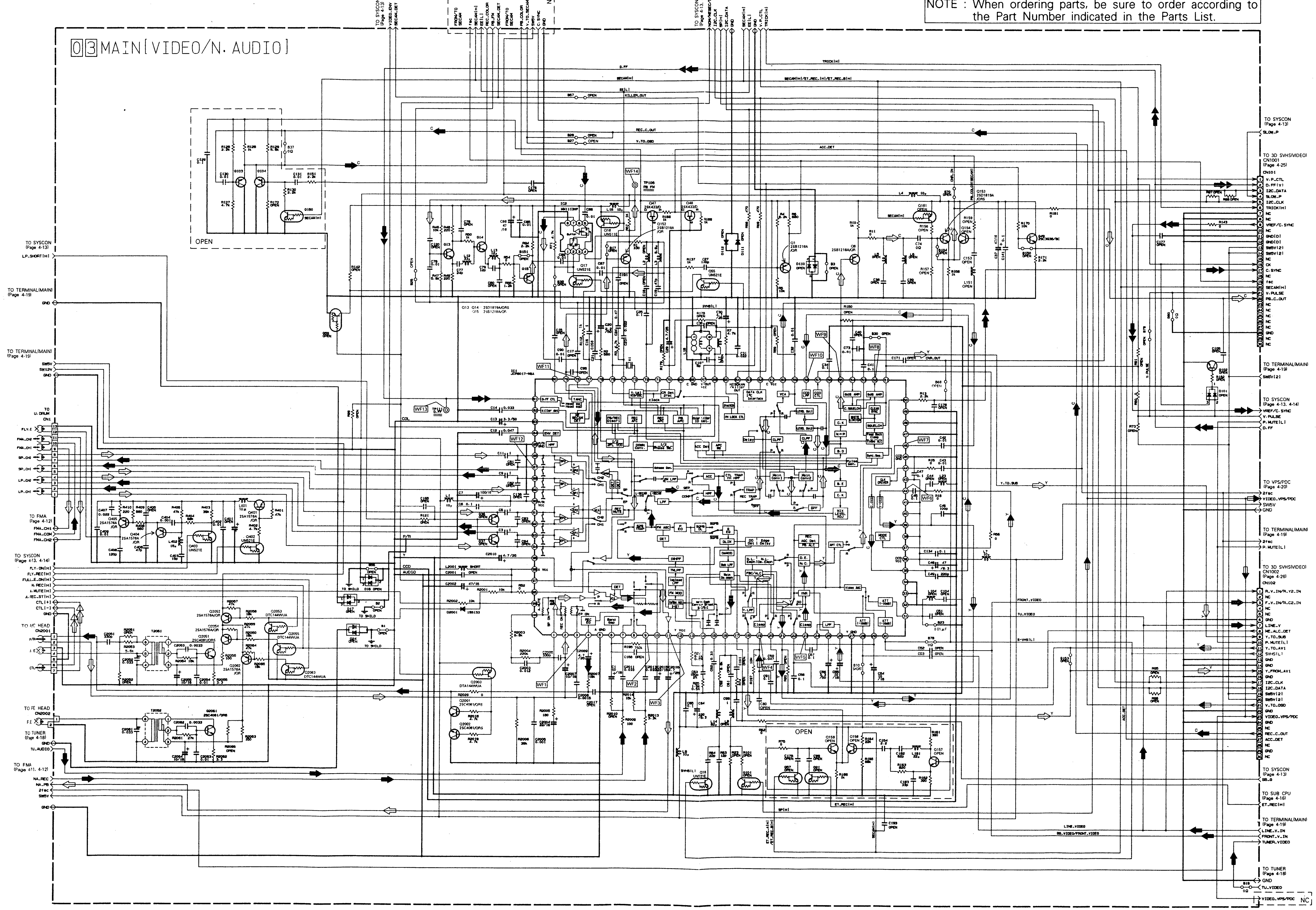
REF.NO.	LOCATION		
CAPACITOR			
C5001	A	D	2E
C5002	A	D	3B
C5005	A	D	5E
C5006	A	D	5C
C5101	A	D	5B
C5103	A	D	7B
C5104	A	D	7D
C5105	A	D	7B
C5106	A	D	7B
C5107	B	C	7A
C5201	A	D	10B
C5202	A	D	11D
C5203	A	D	12E
C5204	A	D	11B
C5205	A	D	12C
C5206	A	D	11E
C5207	A	D	9F
C5208	A	D	9E
C5210	A	D	11C
C5211	A	D	12C
C5212	A	D	11A
C5213	A	D	12A
C5301	A	D	11A
C5302	A	D	9B
C5303	A	D	9B
C5304	A	D	9A
C5305	A	D	10A
CONNECTOR			
CN5201	A	D	11E
DIODE			
D5001	A	D	4A
D5101	A	D	5B
D5102	A	D	5C
D5103	A	D	7B
D5104	A	D	7B
D5105	A	D	7C
D5106	A	D	6B
D5107	A	D	7B
D5201	A	D	9B
D5202	A	D	10D
D5203	A	D	9C
D5204	A	D	9E
D5206	A	D	10C
D5207	A	D	9D
D5210	A	D	9E
D5211	A	D	9E
D5301	A	D	11D
D5303	A	D	10E
D5304	A	D	10E
D5305	A	D	10E
D5306	A	D	9A
D5307	A	D	12A
D5308	A	D	11A
D5309	A	D	10D
D5310	A	D	10E
D5311	A	D	10D
D5312	A	D	11B
IC			
IC5101	A	D	7D
IC5301	A	D	9B
COIL			
L5201	A	D	12D
L5202	A	D	12B
L5203	A	D	12C
L5204	A	D	12A
TRANSISTOR			
Q5301	B	C	8A
Q5302	B	C	9A
RESISTOR			
R5101	A	D	6B
R5102	B	C	7D
R5103	A	D	8B
R5104	A	D	5B
R5106	A	D	7E
R5107	B	C	7B
R5108	B	C	6B
R5109	B	C	6B
R5301	A	D	10A
R5302	B	C	8C
R5303	A	D	9B
R5304	A	D	9A
R5305	B	C	9C
R5306	A	D	10E
R5307	B	C	8C
R5308	B	C	9F
R5309	B	C	10F
R5310	A	D	11E
R5311	B	C	9E
R5312	B	C	9A
R5313	B	C	8A
R5314	B	C	8A
R5315	B	C	9A
R5316	B	C	9B
R5317	B	C	9A
OTHER			
CP5301	A	D	12C
CP5304	A	D	12D
CP5305	A	D	10B
F5001	A	D	1E
K5101	A	D	7D
LF5001	A	D	3E
LF5002	A	D	3B
PC5101	A	D	8B
T5001	A	D	8C
VA5001	A	D	2E

COMPONENT PARTS LOCATION GUIDE <REGULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C5321	A	D	7C
C5322	A	D	9A
C5323	A	D	9A
C5324	A	D	5C
C5325	A	D	6B
C5326	A	D	5A
C5327	A	D	3A
C5328	A	D	2A
C5329	A	D	4B
C5330	A	D	4B
C5331	A	D	2B
C5332	A	D	10C
C5333	A	D	11C
C5334	A	D	10A
C5335	A	D	11A
CONNECTOR			
CN5301	A	D	1E
CN5321	A	D	8E
CN5322	A	D	10E
CN5323	A	D	2A
CN5325	A	D	2C
CN5326	A	D	8E
DIODE			
D5321	A	D	10B
D5322	A	D	8B
D5323	A	D	2C
D5324	A	D	3C
D5325	A	D	5D
D5326	A	D	6C
D5327	A	D	6B
D5328	A	D	6A
D5329	A	D	1D
D5330	A	D	1C
D5331	A	D	1B
D5332	A	D	11A
D5333	A	D	1C
D5334	A	D	8D
D5335	A	D	1B
D5336	A	D	11A
IC			
IC5321	A	D	4B
COIL			
L5321	A	D	2D
TRANSISTOR			
Q5321	A	D	4D
Q5322	B	C	5D
Q5323	A	D	3B
Q5324	B	C	2B
Q5325	A	D	3A
Q5326	A	D	5B
Q5327	B	C	6B
Q5328	A	D	9B
Q5329	B	C	9A
Q5330	A	D	11C
Q5331	A	D	8A
Q5332	B	C	8A
Q5333	A	D	10B
Q5334	B	C	10B
Q5335	A	D	7D
Q5336	B	C	9E
Q5337	A	D	9B
Q5338	B	C	11B
Q5339	A	D	8B
Q5340	B	C	8B
Q5341	B	C	10D
RESISTOR			
R5322	B	C	6D
R5323	B	C	5C
R5324	B	C	6D
R5325	B	C	5C
R5326	B	C	6B
R5327	B	C	6B
R5328	B	C	6B
R5329	B	C	6A
R5330	B	C	9A
R5331	B	C	9A
R5332	B	C	3B
R5333	B	C	2B
R5335	B	C	3A
R5336	B	C	5B
R5337	B	C	5B
R5338	B	C	8A
R5339	B	C	8A
R5340	A	D	8B
R5341	B	C	10B
R5342	B	C	10B
R5343	B	C	10A
R5344	B	C	10A
R5345	B	C	7E
R5346	B	C	9E
R5347	B	C	9B
R5348	B	C	10B
R5349	B	C	11A
R5350	B	C	11A
R5351	B	C	8B
R5352	B	C	8B
VR5321	A	D	6C
OTHER			
CP5322	A	D	5B
CP5324	A	D	2C
CP5325	A	D	2B

4.4 VIDEO/N.AUDIO SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

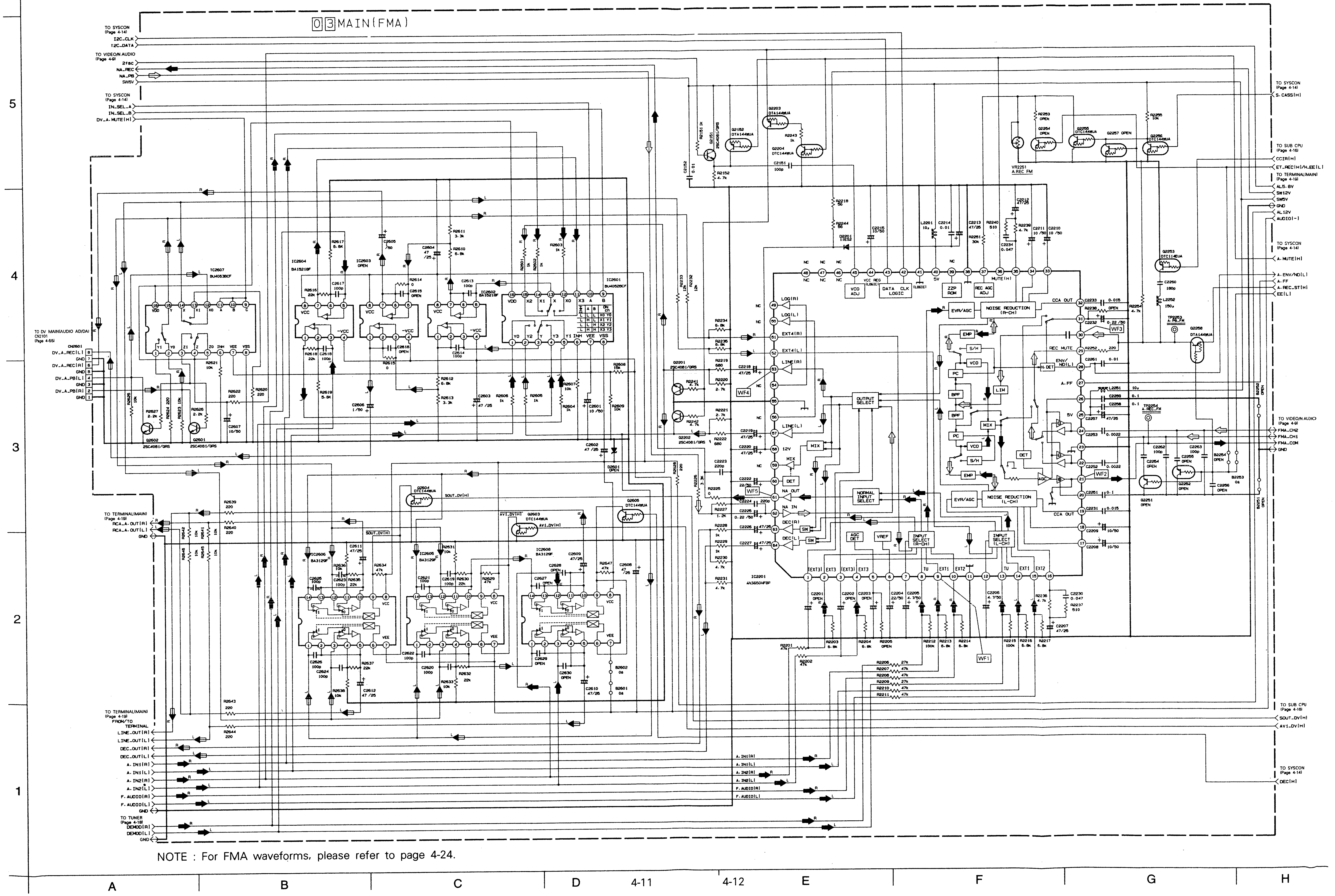

03 MAIN[VIDEO/N.AUDIO]
TO SYSCON (Page 4-13)
VIDEO_ENV
SECAM_DET
FROM/TO SECAM
fsc
SECAM[H]
EE[L]
REC_COLOR
PB_FM
SECAM_DET
FROM/TO SECAM
PB_COLOR
V_TO_SECAM
SW5V
C.SYNC
GND
NC
TO SYSCON (Page 4-13, 4-14)
NON/MESEC/S
I2C_CLK
SP[H]
I2C_DATA
GND
SECAM[H]
EE[L]
GND
V.P_CTL
TRICK[H]
D.FF
SECAM[H]
EE[L]
KILLER_OUT
REC.C.OUT
V.TO.OSD
ACC.DET
OPEN
TO SYSCON (Page 4-13)
LP_SHORT[H]
TO TERMINAL(MAIN) (Page 4-19)
GND
TO TERMINAL(MAIN) (Page 4-19)
SW5V
SW12V
GND
TO U.DRUM CN1
FLY.E
FMA_CH2
FMA_CH1
SP_CH2
SP_CH1
LP_CH2
LP_CH1
TO FMA (Page 4-12)
FMA_CH1
FMA_COM
FMA_CH2
TO SYSCON (Page 4-13, 4-14)
FLY.ON[H]
FLY-REC[H]
FULL_E_ON[H]
N.REC[H]
A.MUTE[H]
A.REC_ST[H]
CTL[+]
CTL[-]
GND
TO A/C HEAD CN2001
P/R
A.E
CTL
TO FE HEAD CN2002
F.E
TO TUNER (Page 4-18)
GND
TU_AUDIO
TO FMA (Page 4-11, 4-12)
NA_REC
NA_PB
2fsc
SW5V
GND
IC1 JCP8017-MBA
IC2
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
WF14
TO SYSCON (Page 4-13)
SLOW_P
TO 3D SVHS(VIDEO) CN1001 (Page 4-25)
CN101
1 V.P_CTL
2 D.FF[V]
3 I2C_DATA
4 SLOW_P
5 I2C_CLK
6 TRICK[H]
7 NC
8 NC
9 VREF/C.SYNC
10 NC
11 GND[D]
12 GND[D]
13 SW5V[2]
14 SW5V[2]
15 NC
16 CK
17 C.SYNC
18 NC
19 fsc
20 SECAM[H]
21 V.PULSE
22 PB_C_OUT
23 NC
24 NC
25 NC
26 NC
27 NC
28 GND
29 NC
30 NC
TO TERMINAL(MAIN) (Page 4-19)
SW5V[2]
TO SYSCON (Page 4-13, 4-14)
VREF/C.SYNC
V.PULSE
P.MUTE[L]
D.FF
TO VPS/PDC (Page 4-20)
2fsc
VIDEO_VPS/PDC
SW5V
GND
TO TERMINAL(MAIN) (Page 4-19)
2fsc
P.MUTE[L]
TO 3D SVHS(VIDEO) CN1002 (Page 4-26)
CN102
1 R_V_IN/R_Y2_IN
2 NC
3 F_V_IN/R_C2_IN
4 NC
5 NC
6 GND
7 LINE_V
8 ME_ALC_DET
9 Y_TO_SUB
10 P.MUTE[L]
11 Y_TO_AV1
12 SVHS[L]
13 GND
14 GND
15 Y_FROM_AV1
16 GND
17 I2C_CLK
18 I2C_DATA
19 SW5V[2]
20 SW5V[2]
21 V_TO_OSD
22 GND
23 VIDEO_VPS/PDC
24 GND
25 NC
26 REC_C_OUT
27 ACC_DET
28 NC
29 GND
30 NC
TO SYSCON (Page 4-13)
SB_G
TO SUB CPU (Page 4-16)
ET_REC[H]
TO TERMINAL(MAIN) (Page 4-19)
LINE_V_IN
FRONT_V_IN
TUNER_VIDEO
TO TUNER (Page 4-18)
GND
B19 0Ω
TU_VIDEO
VIDEO_VPS/PDC
NC
5
4
3
2
1

NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-24.

A
B
C
D
E
F
G
H

4.5 FMA SCHEMATIC DIAGRAM

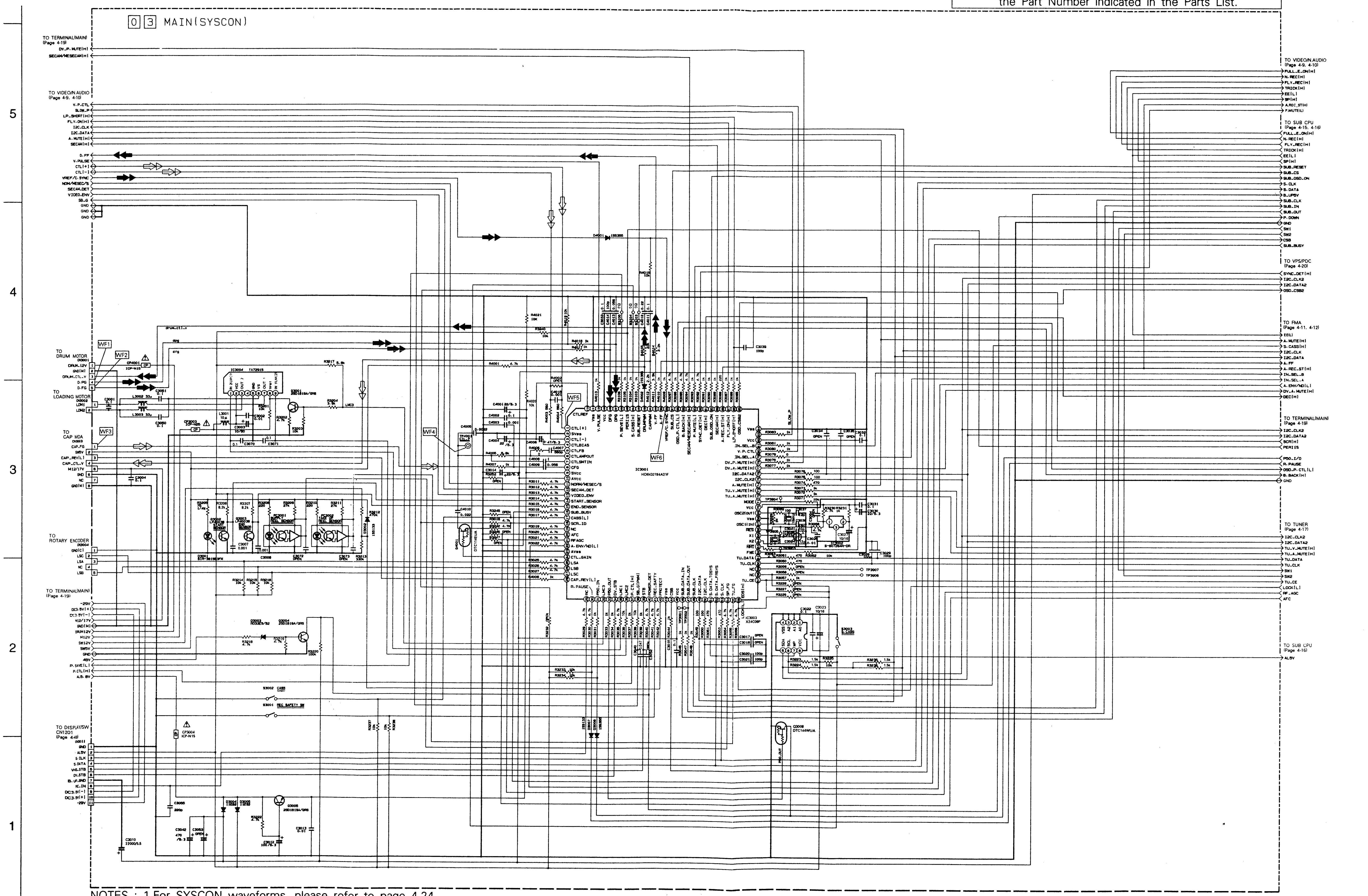
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN(FMA)
TO SYSCON (Page 4-14)
I2C_CLK
I2C_DATA
TO VIDEO/N AUDIO (Page 4-9)
2fsc
NA_REC
NA_PB
SW5V
TO SYSCON (Page 4-14)
IN_SEL_A
IN_SEL_B
DV_A_MUTE(H)
TO DV MAIN(AUDIO AD/DA) CN2101 (Page 4-55)
CN2601
DV_A_REC(L)
GND
DV_A_REC(R)
GND
DV_A_PB(L)
GND
DV_A_PB(R)
GND
IC2607 BU4053BCF
IC2604 BA15218F
IC2603 OPEN
IC2602 BA15218F
IC2601 BU4052BCF
Q2602 2SC4081/QRS
Q2601 2SC4081/QRS
TO TERMINAL(MAIN) (Page 4-19)
RCA_A_OUT(R)
RCA_A_OUT(L)
GND
Q2604 DTC144WUA
Q2603 DTC144WUA
Q2605 DTC144WUA
SOUT_DV(H)
AV1_DV(H)
IC2606 BA3129F
IC2605 BA3129F
IC2608 BA3129F
TO TERMINAL(MAIN) (Page 4-19) FROM/TO TERMINAL
LINE_OUT(R)
LINE_OUT(L)
DEC_OUT(R)
DEC_OUT(L)
A_IN1(R)
A_IN1(L)
A_IN2(R)
A_IN2(L)
F_AUDIO(R)
F_AUDIO(L)
GND
TO TUNER (Page 4-18)
DEMOD(R)
DEMOD(L)
GND
Q2152 DTA144WUA
Q2151 2SC4081/QRS
Q2203 DTA144WUA
Q2204 DTC144WUA
Q2201 2SC4081/QRS
Q2202 2SC4081/QRS
IC2201 AN3650HFBP
VCO ADJ
DATA CLK LOGIC
ZZP ROM
REC AGC ADJ
EVR/AGC
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
OUTPUT SELECT
NORMAL INPUT SELECT
AGC DET
VREF
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
CCA OUT
REC MUTE
MUTE(H)
WF1
WF2
WF3
WF4
WF5
VR2251 A.REC FM
Q2253 OPEN
Q2254 OPEN
Q2255 DTC144WUA
Q2257 OPEN
Q2256 DTC144WUA
Q2253 DTC114EUA
Q2258 DTA144WUA
Q2251 OPEN
Q2252 OPEN
TP2253 A.PB_FM
TP2254 A.REC_FM
TO SYSCON (Page 4-14)
S_CASS(H)
TO SUB CPU (Page 4-16)
CCIR(H)
ET_REC(H)/H_EE(L)
TO TERMINAL(MAIN) (Page 4-19)
AL5.8V
SW12V
SW5V
GND
AL12V
AUDIO(-)
TO SYSCON (Page 4-14)
A_MUTE(H)
A_ENV/ND(L)
A_FF
A_REC_ST(H)
EE(L)
TO VIDEO/N AUDIO (Page 4-9)
FMA_CH2
FMA_CH1
FMA_COM
GND
TO SUB CPU (Page 4-16)
SOUT_DV(H)
AV1_DV(H)
TO SYSCON (Page 4-14)
DEC(H)
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For FMA waveforms, please refer to page 4-24.

4.6 SYSTEM CONTROL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

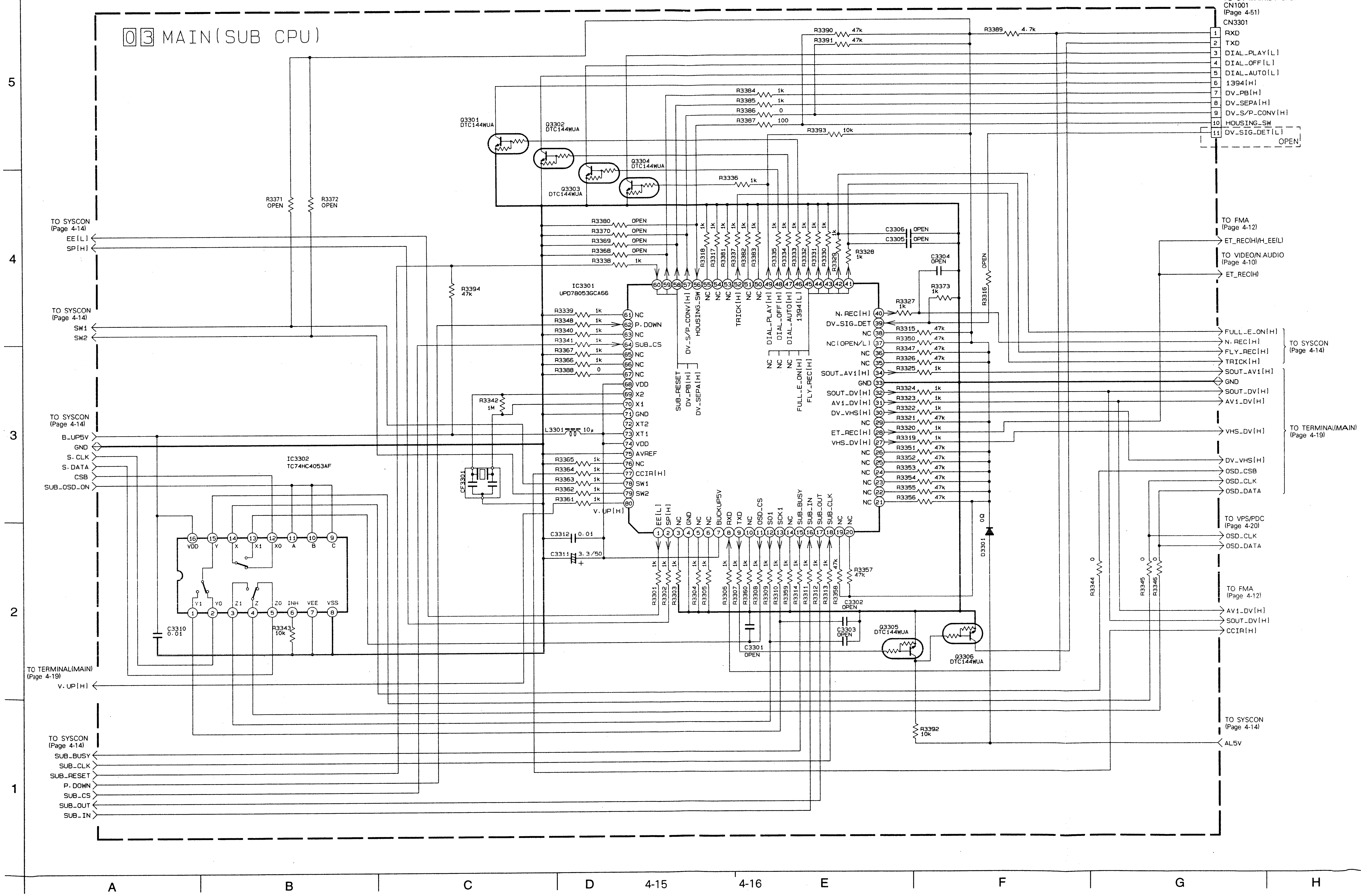


03 MAIN(SYSCON)
TO TERMINAL(MAIN) (Page 4-19)
DV_P.MUTE(H)
SECAM/MESECAM(H)
TO VIDEO/N.AUDIO (Page 4-9, 4-10)
V.P_CTL
SLOW_P
LP_SHORT(H)
FLY.ON(H)
I2C_CLK
I2C_DATA
A.MUTE(H)
SECAM(H)
D.FF
V.PULSE
CTL(+)
CTL(-)
VREF/C.SYNC
NOM/MESEC/S
SECAM_DET
VIDEO_ENV
SB_G
GND
GND
GND
TO DRUM MOTOR CN3001
DRUM_12V
GND(M)
DRUM_CTL_V
D.PG
D.FG
TO LOADING MOTOR CN3002
LDM1
LDM2
TO CAP MDA CN3003
CAP_FG
SW5V
CAP_REV(L)
CAP_CTL_V
M12/17V
GND
NC
GND(M)
TO ROTARY ENCODER CN3004
GND(C)
LSC
LSA
NC
LSB
TO TERMINAL(MAIN) (Page 4-19)
-29V
DC3.5V(+)
DC3.5V(-)
M12/17V
GND(M)
DRUM12V
M12V
SW12V
SW5V
GND
48V
P.SAVE(L)
P.CTL(H)
AL5.8V
TO DISPLAY/SW CN1201 (Page 4-48)
CN3011
GND
AL5V
S.CLK
S.DATA
VHS_STB
DV_STB
B.UP_GND
RC_IN
DC3.5V(-)
DC3.5V(+)
-29V
WF1
WF2
WF3
WF4
WF5
WF6
IC3001 HD6432194A21F
IC3004 TA7291S
IC3003 X24C08F
Q3008 DTC144WUA
S3002 CASS
S3001 REC SAFETY SW
CP3004 ICP-N15
C3010 22000/5.5
TO VIDEO/N.AUDIO (Page 4-9, 4-10)
FULL_E_ON(H)
N.REC(H)
FLY_REC(H)
TRICK(H)
EE(L)
SP(H)
A.REC_ST(H)
P.MUTE(L)
TO SUB CPU (Page 4-15, 4-16)
FULL_E_ON(H)
N.REC(H)
FLY_REC(H)
TRICK(H)
EE(L)
SP(H)
SUB_RESET
SUB_CS
SUB_OSD_ON
S.CLK
S.DATA
B_UP5V
SUB_CLK
SUB_IN
SUB_OUT
P.DOWN
GND
SW1
SW2
CSB
SUB_BUSY
TO VPS/PDC (Page 4-20)
SYNC_DET(H)
I2C_CLK2
I2C_DATA2
OSD_CSB2
TO FMA (Page 4-11, 4-12)
EE(L)
A.MUTE(H)
S.CASS(H)
I2C_CLK
I2C_DATA
A.FF
A.REC_ST(H)
IN_SEL_B
IN_SEL_A
A.ENV/ND(L)
DV_A.MUTE(H)
DEC(H)
TO TERMINAL(MAIN) (Page 4-19)
I2C_CLK2
I2C_DATA2
SCR(H)
PERI1S
P50_I/O
R.PAUSE
OSD_P.CTL(L)
B.BACK(H)
GND
TO TUNER (Page 4-17)
I2C_CLK2
I2C_DATA2
TU_V_MUTE(H)
TU_A_MUTE(H)
TU_DATA
TU_CLK
SW1
SW2
TU_CE
LOCK(L)
RF_AGC
AFC
TO SUB CPU (Page 4-16)
AL5V
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTES : 1.For SYSCON waveforms, please refer to page 4-24.
2.The SYSTEM CONTROL circuit of this model has an automatic recognition about the ON-OFF control of the DOCTOR SYSTEM.

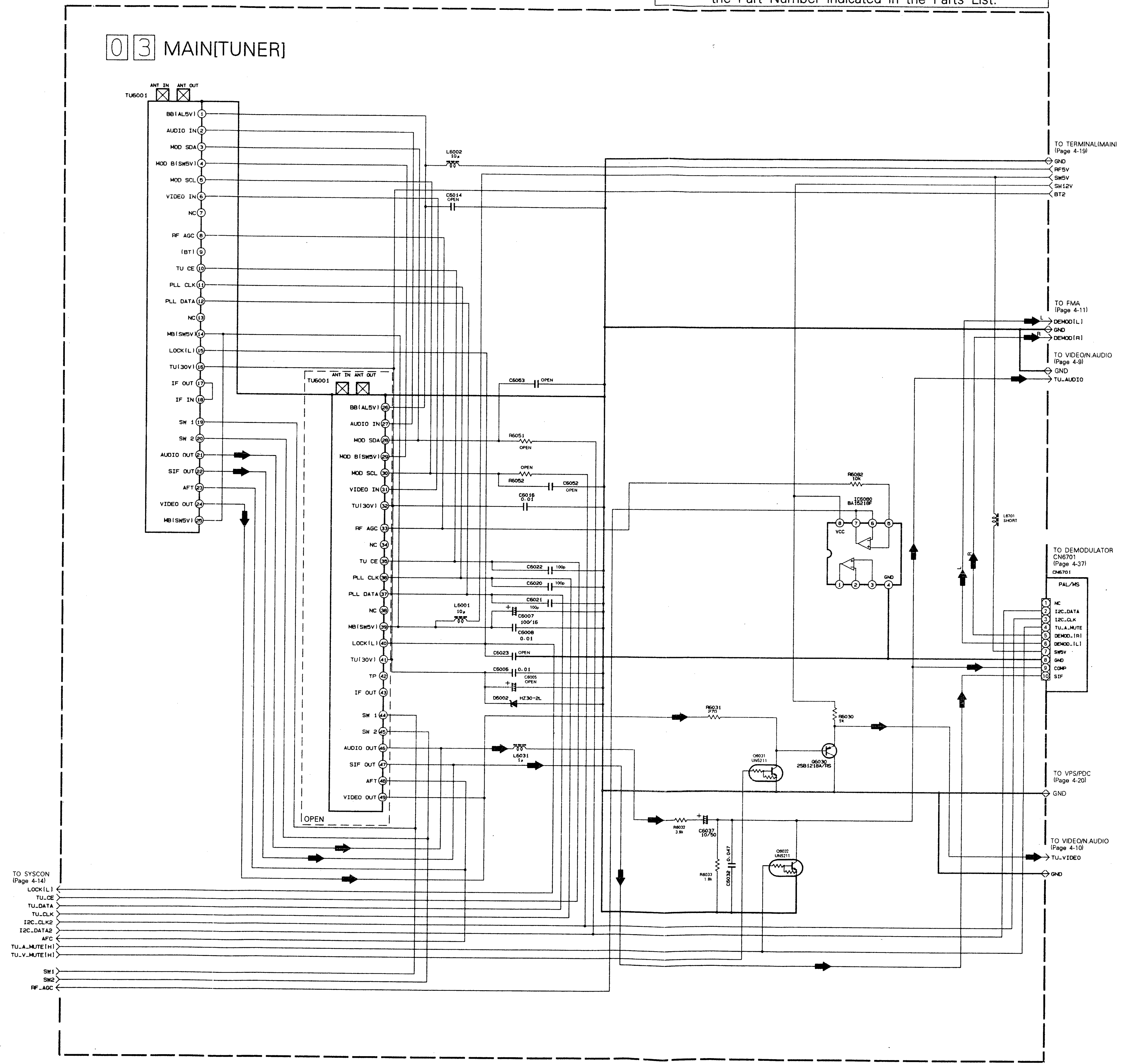
4.7 SUB CPU SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN(SUB CPU)
TO DV MAIN(DV CPU) CN1001 (Page 4-51)
CN3301
1 RXD
2 TXD
3 DIAL_PLAY[L]
4 DIAL_OFF[L]
5 DIAL_AUTO[L]
6 1394[H]
7 DV_PB[H]
8 DV_SEPA[H]
9 DV_S/P_CONV[H]
10 HOUSING_SW
11 DV_SIG_DET[L]
OPEN
IC3301 UPD78053GCA66
IC3302 TC74HC4053AF
Q3301 DTC144WUA
Q3302 DTC144WUA
Q3303 DTC144WUA
Q3304 DTC144WUA
Q3305 DTC144WUA
Q3306 DTC144WUA
D3301
CF3301
L3301 10μ
C3312 0.01
C3311 3.3/50
C3310 0.01
R3342 1M
R3394 47k
R3371 OPEN
R3372 OPEN
R3343 10k
R3392 10k
R3389 4.7k
R3390 47k
R3391 47k
R3393 10k
R3384 1k
R3385 1k
R3386 0
R3387 100
R3336 1k
R3328 1k
R3357 47k
R3327 1k
R3373 1k
C3304 OPEN
C3306 OPEN
C3305 OPEN
C3301 OPEN
C3302 OPEN
C3303 OPEN
R3316 OPEN
R3344 0
R3345 0
R3346 0
TO SYSCON (Page 4-14)
EE[L]
SP[H]
SW1
SW2
B_UP5V
GND
S.CLK
S.DATA
CSB
SUB_OSD_ON
TO TERMINAL(MAIN) (Page 4-19)
V.UP[H]
SUB_BUSY
SUB_CLK
SUB_RESET
P.DOWN
SUB_CS
SUB_OUT
SUB_IN
TO FMA (Page 4-12)
ET_REC(H)/H_EE(L)
TO VIDEO/N.AUDIO (Page 4-10)
ET_REC(H)
FULL_E_ON[H]
N.REC[H]
FLY_REC[H]
TRICK[H]
SOUT_AV1[H]
GND
SOUT_DV[H]
AV1_DV[H]
VHS_DV[H]
DV_VHS[H]
OSD_CSB
OSD_CLK
OSD_DATA
TO TERMINAL(MAIN) (Page 4-19)
TO VPS/PDC (Page 4-20)
OSD_CLK
OSD_DATA
TO FMA (Page 4-12)
AV1_DV[H]
SOUT_DV[H]
CCIR[H]
TO SYSCON (Page 4-14)
AL5V
61 NC
62 P.DOWN
63 NC
64 SUB_CS
65 NC
66 NC
67 NC
68 VDD
69 X2
70 X1
71 GND
72 XT2
73 XT1
74 VDD
75 AVREF
76 NC
77 CCIR[H]
78 SW1
79 SW2
80 V.UP[H]
1 EE[L]
2 SP[H]
3 NC
4 GND
5 NC
6 NC
7 BUCKUP5V
8 RXD
9 TXD
10 NC
11 OSD_CS
12 SO1
13 SCK1
14 NC
15 SUB_BUSY
16 SUB_IN
17 SUB_OUT
18 SUB_CLK
19 NC
20 NC
40 N.REC[H]
39 DV_SIG_DET
38 NC
37 NC(OPEN/L)
36 NC
35 NC
34 SOUT_AV1[H]
33 GND
32 SOUT_DV[H]
31 AV1_DV[H]
30 DV_VHS[H]
29 NC
28 ET_REC[H]
27 VHS_DV[H]
26 NC
25 NC
24 NC
23 NC
22 NC
21 NC
SUB_RESET
DV_PB[H]
DV_SEPA[H]
DV_S/P_CONV[H]
HOUSING_SW
TRICK[H]
DIAL_PLAY[H]
DIAL_OFF[H]
DIAL_AUTO[H]
1394[L]
FULL_E_ON[H]
FLY_REC[H]
VDD Y X X1 X0 A B C
Y1 Y0 Z1 Z Z0 INH VEE VSS
5
4
3
2
1
A
B
C
D
E
F
G
H

4.8 TUNER SCHEMATIC DIAGRAM

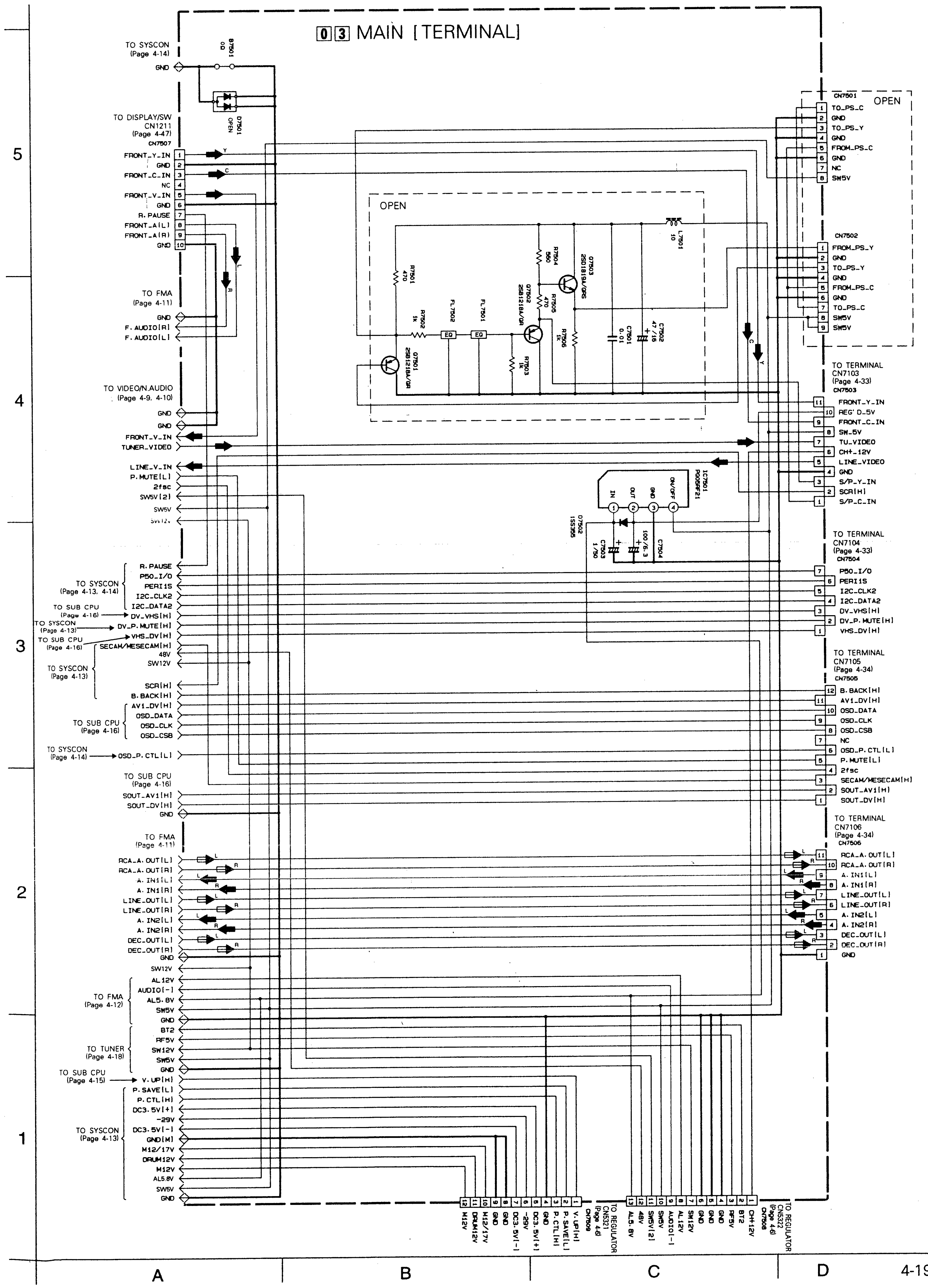
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

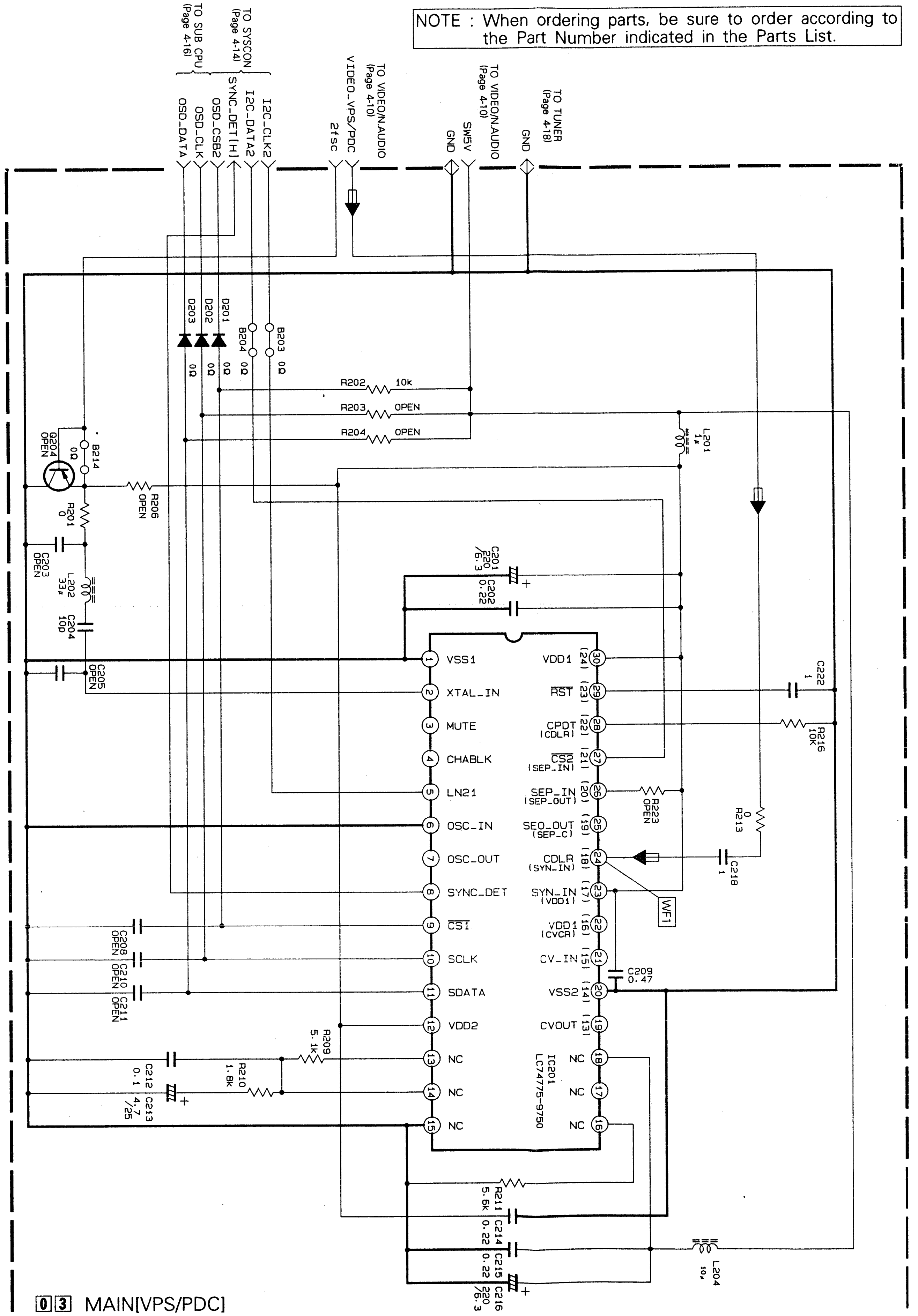


03 MAIN[TUNER]
TU6001
ANT IN
ANT OUT
BB(AL5V) 1
AUDIO IN 2
MOD SDA 3
MOD B(SW5V) 4
MOD SCL 5
VIDEO IN 6
NC 7
RF AGC 8
(BT) 9
TU CE 10
PLL CLK 11
PLL DATA 12
NC 13
MB(SW5V) 14
LOCK(L) 15
TU(30V) 16
IF OUT 17
IF IN 18
SW 1 19
SW 2 20
AUDIO OUT 21
SIF OUT 22
AFT 23
VIDEO OUT 24
MB(SW5V) 25
TU6001
ANT IN
ANT OUT
BB(AL5V) 26
AUDIO IN 27
MOD SDA 28
MOD B(SW5V) 29
MOD SCL 30
VIDEO IN 31
TU(30V) 32
RF AGC 33
NC 34
TU CE 35
PLL CLK 36
PLL DATA 37
NC 38
MB(SW5V) 39
LOCK(L) 40
TU(30V) 41
TP 42
IF OUT 43
SW 1 44
SW 2 45
AUDIO OUT 46
SIF OUT 47
AFT 48
VIDEO OUT 49
OPEN
L6002 10μ
C6014 OPEN
C6063 OPEN
R6051 OPEN
OPEN R6052
C6052 OPEN
C6016 0.01
C6022 100p
C6020 100p
C6021 100p
L6001 10μ
C6007 100/16
C6008 0.01
C6023 OPEN
C6006 0.01
C6005 OPEN
D6002 HZ30-2L
L6031 1μ
R6082 10k
IC6080 BA15218F
VCC
GND
R6031 270
R6030 1k
Q6031 UN5211
Q6030 2SB1218A/RS
R6032 3.9k
C6037 10/50
R6033 1.8k
C6032 0.047
Q6032 UN5211
L6701 SHORT
L
R
TO TERMINAL(MAIN) (Page 4-19)
GND
RF5V
SW5V
SW12V
BT2
TO FMA (Page 4-11)
DEMOD(L)
GND
DEMOD(R)
TO VIDEO/N.AUDIO (Page 4-9)
GND
TU_AUDIO
TO DEMODULATOR CN6701 (Page 4-37)
CN6701
PAL/MS
1 NC
2 I2C_DATA
3 I2C_CLK
4 TU_A_MUTE
5 DEMOD_(R)
6 DEMOD_(L)
7 SW5V
8 GND
9 COMP
10 SIF
TO VPS/PDC (Page 4-20)
GND
TO VIDEO/N.AUDIO (Page 4-10)
TU_VIDEO
GND
TO SYSCON (Page 4-14)
LOCK(L)
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
AFC
TU_A_MUTE(H)
TU_V_MUTE(H)
SW1
SW2
RF_AGC
5
4
3
2
1
A
B
C
D
E
F
G
H

4.9 TERMINAL(MAIN) AND VPS/PDC SCHEMATIC DIAGRAMS

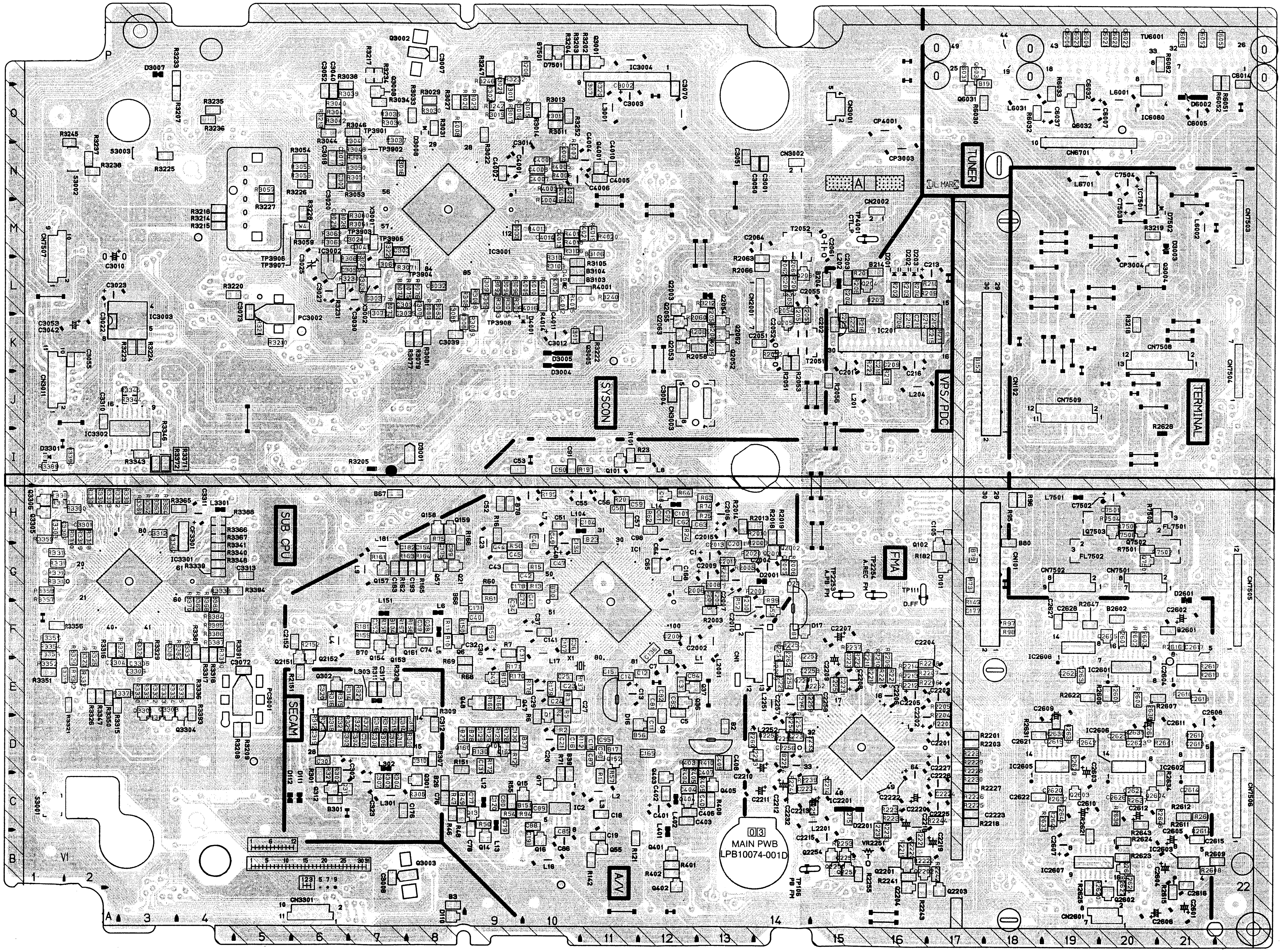
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN [TERMINAL]
5
4
3
2
1
A
B
C
D
TO SYSCON (Page 4-14)
GND
B7501 0Ω
D7501 OPEN
TO DISPLAY/SW CN1211 (Page 4-47)
CN7507
FRONT_Y_IN
GND
FRONT_C_IN
NC
FRONT_V_IN
GND
R.PAUSE
FRONT_A(L)
FRONT_A(R)
GND
Y
C
L
R
TO FMA (Page 4-11)
GND
F.AUDIO(R)
F.AUDIO(L)
TO VIDEO/N.AUDIO (Page 4-9, 4-10)
GND
GND
FRONT_V_IN
TUNER_VIDEO
LINE_V_IN
P.MUTE(L)
2fsc
SW5V(2)
SW5V
SW12V
R.PAUSE
P50_I/O
PERI1S
I2C_CLK2
I2C_DATA2
TO SYSCON (Page 4-13, 4-14)
TO SUB CPU (Page 4-16) DV_VHS(H)
TO SYSCON (Page 4-13) DV_P.MUTE(H)
TO SUB CPU (Page 4-16) VHS_DV(H)
SECAM/MESECAM(H)
48V
SW12V
TO SYSCON (Page 4-13)
SCR(H)
B.BACK(H)
AV1_DV(H)
OSD_DATA
OSD_CLK
OSD_CSB
TO SUB CPU (Page 4-16)
TO SYSCON (Page 4-14) OSD_P.CTL(L)
TO SUB CPU (Page 4-16)
SOUT_AV1(H)
SOUT_DV(H)
GND
TO FMA (Page 4-11)
RCA_A.OUT(L)
RCA_A.OUT(R)
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC_OUT(L)
DEC_OUT(R)
GND
SW12V
TO FMA (Page 4-12)
AL12V
AUDIO(-)
AL5.8V
SW5V
GND
TO TUNER (Page 4-18)
BT2
RF5V
SW12V
SW5V
GND
TO SUB CPU (Page 4-15) V.UP(H)
TO SYSCON (Page 4-13)
P.SAVE(L)
P.CTL(H)
DC3.5V(+)
-29V
DC3.5V(-)
GND(M)
M12/17V
DRUM12V
M12V
AL5.8V
SW5V
GND
OPEN
R7501 470
R7502 1k
FL7502
FL7501
EQ
EQ
Q7501 2SB1218A/QR
Q7502 2SB1218A/QR
Q7503 2SD1819A/QRS
R7503 1k
R7504 560
R7505 470
R7506 1k
C7501 0.01
C7502 47/16
L7501 10
IC7501 PQ05RF21
IN
OUT
GND
ON/OFF
D7502 1SS355
C7503 1/50
C7504 100/6.3
CN7501
OPEN
TO_PS_C
GND
TO_PS_Y
GND
FROM_PS_C
GND
NC
SW5V
CN7502
FROM_PS_Y
GND
TO_PS_Y
GND
FROM_PS_C
GND
TO_PS_C
SW5V
SW5V
TO TERMINAL CN7103 (Page 4-33)
CN7503
FRONT_Y_IN
REG'D_5V
FRONT_C_IN
SW_5V
TU_VIDEO
CH+_12V
LINE_VIDEO
GND
S/P_Y_IN
SCR(H)
S/P_C_IN
TO TERMINAL CN7104 (Page 4-33)
CN7504
P50_I/O
PERI1S
I2C_CLK2
I2C_DATA2
DV_VHS(H)
DV_P.MUTE(H)
VHS_DV(H)
TO TERMINAL CN7105 (Page 4-34)
CN7505
B.BACK(H)
AV1_DV(H)
OSD_DATA
OSD_CLK
OSD_CSB
NC
OSD_P.CTL(L)
P.MUTE(L)
2fsc
SECAM/MESECAM(H)
SOUT_AV1(H)
SOUT_DV(H)
TO TERMINAL CN7106 (Page 4-34)
CN7506
RCA_A.OUT(L)
RCA_A.OUT(R)
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC_OUT(L)
DEC_OUT(R)
GND
M12V
DRUM12V
M12/17V
GND
GND
DC3.5V(-)
-29V
DC3.5V(+)
GND
P.CTL(H)
P.SAVE(L)
V.UP(H)
CN7509
TO REGULATOR CN5321 (Page 4-6)
AL5.8V
48V
SW5V(2)
SW5V
AUDIO(-)
AL12V
SW12V
GND
GND
GND
RF5V
BT2
CH+12V
CN7508
TO REGULATOR CN5322 (Page 4-6)

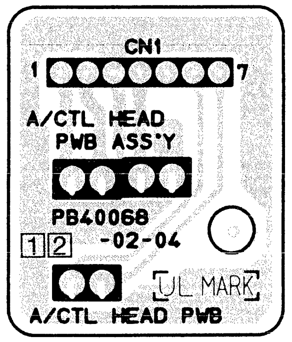

TO SUB CPU (Page 4-16)
TO SYSCON (Page 4-14)
OSD_DATA
OSD_CLK
OSD_CSB2
SYNC_DET(H)
I2C_DATA2
I2C_CLK2
TO VIDEO/N.AUDIO (Page 4-10)
VIDEO_VPS/PDC
2fsc
TO VIDEO/N.AUDIO (Page 4-10)
GND
SW5V
TO TUNER (Page 4-18)
GND
D203 0Ω
D202 0Ω
D201 0Ω
B204 0Ω
B203 0Ω
R202 10k
R203 OPEN
R204 OPEN
Q204 OPEN
B214 0Ω
R201 0
R206 OPEN
C203 OPEN
L202 33μ
C204 10p
C205 OPEN
C201 220/6.3
C202 0.22
L201 1μ
VSS1
XTAL_IN
MUTE
CHABLK
LN21
OSC_IN
OSC_OUT
SYNC_DET
CS1
SCLK
SDATA
VDD2
NC
NC
NC
VDD1 (24)
RST (23)
CPDT (CDLR) (22)
CS2 (SEP_IN) (21)
SEP_IN (SEP_OUT) (20)
SEO_OUT (SEP_C) (19)
CDLR (SYN_IN) (18)
SYN_IN (VDD1) (17)
VDD1 (CVCR) (16)
CV_IN (15)
VSS2 (14)
CVOUT (13)
NC
NC
NC
IC201 LC74775-9750
C222 1
R216 10K
R223 OPEN
R213 0
C218 1
WF1
C209 0.47
C208 OPEN
C210 OPEN
C211 OPEN
R209 5.1k
R210 1.8k
C212 0.1
C213 4.7/25
R211 5.6k
C214 0.22
C215 0.22
C216 220/6.3
L204 10μ
03 MAIN[VPS/PDC]
E
F
G
H

NOTE : For VPS/PDC waveforms, please refer to page 4-24.

4.10 MAIN AND A/C HEAD CIRCUIT BOARDS


SYSCON
SUB CPU
SECAM
A/V
TUNER
VPS/PDC
TERMINAL
FMA
MAIN PWB
LPB10074-001D
IC3001
IC3003
IC3301
IC201
IC2201
IC2601
IC2605
IC2606
IC2607
CN3001
CN3002
CN3301
CN2001
CN101
CN102
CN6701
CN7501
CN7502
CN7503
CN7504
CN7505
CN7506
CN7508
CN7509
CN2601
TU6001
UL MARK

— A/C HEAD —


CN1
1
7
A/CTL HEAD
PWB ASS'Y
PB40068
1 2 -02-04
UL MARK
A/CTL HEAD PWB

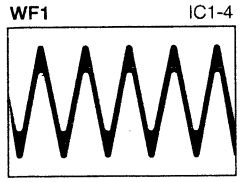
COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	A	D	13G
C3	B	C	12E
C5	B	C	12E
C6	B	C	12F
C7	A	D	12E
C9	B	C	12E
C11	B	C	12D
C12	B	C	12E
C13	A	D	11E
C14	B	C	11E
C15	B	C	11E
C16	B	C	10D
C17	B	C	11D
C18	B	C	11C
C19	B	C	11B
C20	A	D	10D
C21	B	C	10D
C23	B	C	10E
C24	B	C	10E
C25	B	C	10E
C27	B	C	10E
C29	A	D	10E
C30	A	D	9F
C31	B	C	9F
C32	B	C	9F
C34	B	C	9F
C36	B	C	10F
C37	A	D	10F
C38	B	C	8F
C39	B	C	8F
C40	B	C	9F
C41	B	C	10G
C42	B	C	10G
C43	B	C	9G
C44	B	C	9G
C45	B	C	9G
C46	B	C	10H
C47	B	C	10G
C48	A	D	10G
C49	B	C	10H
C51	B	C	10H
C52	B	C	9H
C53	B	C	9I
C54	A	D	10H
C55	A	D	10H
C56	A	D	11H
C57	B	C	11H
C58	B	C	11H
C59	B	C	11H
C60	B	C	10I
C61	B	C	12H
C62	B	C	12H
C63	B	C	13H
C64	A	D	12G
C65	B	C	12G
C73	B	C	9G
C74	B	C	8F
C76	B	C	8C
C77	B	C	9C
C78	B	C	9C
C79	B	C	9C
C80	B	C	9C
C81	B	C	12E
C82	B	C	12E
C83	B	C	12E
C84	B	C	12E
C85	B	C	10C
C86	A	D	10B
C87	B	C	11D
C88	B	C	10C
C89	B	C	10C
C90	B	C	11D
C91	B	C	10I
C92	B	C	12H
C95	B	C	11D
C98	B	C	12H
C99	B	C	8G
C101	B	C	12H
C104	B	C	11H
C105	B	C	17H
C107	B	C	10F
C120	B	C	9C
C129	B	C	9D
C130	B	C	9D
C131	B	C	9D
C134	B	C	10G
C136	B	C	12F
C141	B	C	10F
C153	B	C	7F
C154	B	C	8G
C165	B	C	12D
C168	B	C	12G
C171	B	C	9F
C175	B	C	8G
C176	B	C	7C
C177	B	C	17F
C178	B	C	9G
C182	B	C	7G
C183	B	C	7G
C191	B	C	10B
C193	B	C	8G
C201	A	D	15K
C202	B	C	15K
C203	B	C	15L
C204	B	C	15L
C205	B	C	15K
C208	B	C	16K
C209	B	C	16K
C210	B	C	16K
C211	B	C	16K
C212	B	C	17K
C213	A	D	16L
C214	B	C	16K
C215	B	C	17K
C216	A	D	16K
C218	B	C	16K
C222	B	C	15K
C301	B	C	6D
C302	A	D	6D
C303	B	C	6D
C304	B	C	7D
C305	B	C	7D
C307	B	C	7C
C308	B	C	7D
C309	B	C	7D
C310	B	C	8D
C311	B	C	7D
C312	B	C	8D
C313	B	C	8D
C314	B	C	7D
C315	B	C	7D
C316	B	C	7D
C317	B	C	7E
C318	B	C	6D
C319	B	C	6D
C320	B	C	6E
C321	B	C	6D
C322	B	C	7D
C323	A	D	7C
C401	A	D	12C
C402	B	C	12C
C403	B	C	12C
C404	B	C	12C
C405	B	C	13C
C406	B	C	12C
C407	B	C	13D
C408	B	C	13D
C409	B	C	13D
C2001	B	C	12F
C2002	A	D	12F
C2003	B	C	13G
C2004	A	D	14G
C2005	B	C	14G
C2006	B	C	12G
C2007	A	D	13G
C2008	B	C	13G
C2009	A	D	13G
C2010	A	D	14F
C2011	B	C	13H
C2013	B	C	13H
C2015	A	D	13H
C2016	A	D	13H
C2017	B	C	13G
C2051	B	C	14K
C2052	A	D	14K
C2053	B	C	14L
C2054	B	C	14L
C2055	A	D	14L
C2061	A	D	15M
C2062	B	C	14L
C2063	B	C	14L
C2064	A	D	14M
C2151	B	C	15C
C2152	B	C	6F
C2201	A	D	17D
C2202	A	D	16D
C2203	A	D	17E
C2204	A	D	17E
C2205	A	D	16E
C2206	A	D	16E
C2207	A	D	15F
C2208	A	D	15E
C2209	A	D	15E
C2210	A	D	14D
C2211	A	D	14C
C2212	A	D	14C
C2213	A	D	15C
C2214	B	C	15C
C2215	A	D	15B
C2218	A	D	16C
C2219	A	D	17C
C2220	A	D	16C
C2222	A	D	16D
C2223	B	C	17C
C2224	B	C	17C
C2225	A	D	17C
C2226	A	D	17C
C2227	A	D	17D
C2230	B	C	15F
C2231	B	C	15E
C2232	A	D	14D
C2233	B	C	14D
C2234	B	C	14C
C2251	B	C	15E
C2252	B	C	14F
C2253	B	C	14E
C2254	B	C	14E
C2255	B	C	14E
C2256	B	C	14D
C2257	A	D	14E
C2258	B	C	15E
C2259	B	C	14E
C2260	B	C	13D
C2261	B	C	14E
C2262	B	C	14F
C2263	B	C	14E
C2601	A	D	21A
C2602	A	D	21F
C2603	A	D	19D
C2604	A	D	21B
C2605	A	D	21B
C2606	A	D	20A
C2607	A	D	19B
C2608	A	D	21D
C2609	A	D	19E
C2610	A	D	19C
C2611	A	D	20D
C2612	A	D	20C
C2613	B	C	21D
C2614	B	C	21C
C2615	B	C	21B
C2616	B	C	21B
C2617	B	C	21F
C2618	B	C	21E
C2619	B	C	19D
C2620	B	C	19C
C2621	B	C	18D
C2622	B	C	18C
C2623	B	C	20D
C2624	B	C	20C
C2625	B	C	20D
C2626	B	C	20C
C2627	B	C	19F
C2628	B	C	19F
C2629	B	C	19E
C2630	B	C	19E
C3001	B	C	14N
C3002	B	C	11P
C3003	A	D	11O
C3004	B	C	12J
C3007	B	C	8P
C3008	B	C	7B
C3010	A	D	3M
C3012	A	D	10K
C3013	B	C	10K
C3014	A	D	9N
C3016	B	C	7N
C3017	B	C	6N
C3018	B	C	6N
C3020	B	C	6N
C3021	B	C	6N
C3022	B	C	2K
C3023	A	D	2L
C3024	B	C	7M
C3025	A	D	6L
C3026	B	C	7L
C3027	A	D	6L
C3028	B	C	6M
C3029	B	C	6M
C3030	A	D	7L
C3031	B	C	7M
C3032	B	C	8L
C3033	B	C	9M
C3034	B	C	7L
C3035	B	C	7L
C3036	B	C	7L
C3037	B	C	7L
C3039	B	C	8K
C3040	B	C	6O
C3041	B	C	7M
C3042	A	D	2K
C3050	B	C	13N
C3051	B	C	13N
C3052	B	C	6O
C3053	A	D	2K
C3054	B	C	6L
C3055	B	C	2K
C3070	B	C	12O
C3071	B	C	11O
C3072	B	C	5E
C3073	B	C	5L
C3301	B	C	2H
C3302	B	C	2H
C3303	B	C	1H
C3304	B	C	3E
C3305	B	C	3E
C3306	B	C	3E
C3310	B	C	2J
C3311	A	D	4H
C3312	B	C	3H
C3313	B	C	5G
C4001	A	D	9N
C4002	B	C	9N
C4003	B	C	10N
C4004	A	D	11N
C4005	B	C	11N
C4006	A	D	10N
C4007	B	C	10N
C4008	B	C	10N
C4009	B	C	10N
C4010	B	C	11N
C4011	B	C	10L
C4012	B	C	10L
C4013	B	C	10M
C4014	B	C	10M
C4015	B	C	10N
C6005	A	D	21O
C6006	B	C	19P
C6007	A	D	19O
C6008	B	C	19P
C6014	B	C	22P
C6016	B	C	21P
C6020	B	C	20P
C6021	B	C	20P
C6022	B	C	20P
C6023	B	C	19P
C6032	B	C	19O
C6037	A	D	19O
C6052	B	C	21P
C6053	B	C	22P
C7501	B	C	20H
C7502	A	D	20H
C7503	A	D	20M
C7504	A	D	20N
CONNECTOR			
CN1	A	D	13F
CN101	A	D	18F
CN102	A	D	18J
CN2001	A	D	14L
CN2002	A	D	16M
CN2601	A	D	20A
CN3001	A	D	15O
CN3002	A	D	14N
CN3003	A	D	13J
CN3004	A	D	4N
CN3011	A	D	1J
CN3301	A	D	6A
CN6701	A	D	20O
CN7501	A	D	21G
CN7502	A	D	19G
CN7503	A	D	22M
CN7504	A	D	22J
CN7505	A	D	22F
CN7506	A	D	22C
CN7507	A	D	1L
CN7508	A	D	21K
CN7509	A	D	19J
DIODE			
D16	B	C	12D
D17	B	C	14F
D24	B	C	14G
D101	B	C	17G
D110	B	C	8A
D111	A	D	6C
D112	A	D	5C
D201	B	C	16L
D202	B	C	16L
D203	B	C	16L
D2001	A	D	13G
D2201	A	D	15C
D2601	A	D	21G
D3001	A	D	8I
D3002	A	D	13L
D3003	A	D	21M
D3004	A	D	10K
D3005	A	D	10K
D3007	A	D	3P
D3008	B	C	8O
D3301	B	C	1I
D4001	B	C	9K
D4002	B	C	10L
D6002	A	D	21O
D7501	B	C	10P
D7502	B	C	21M
IC			
IC1	B	C	11G
IC2	B	C	10C
IC201	A	D	15L
IC301	A	D	6E
IC2201	B	C	15D
IC2601	B	C	20E
IC2602	B	C	21D
IC2603	B	C	21B
IC2604	B	C	21E
IC2605	B	C	19D
IC2606	B	C	20D
IC2607	B	C	19B
IC2608	B	C	19F
IC3001	B	C	8M
IC3002	B	C	6L
IC3003	A	D	2L
IC3004	A	D	12P
IC3301	B	C	3G
IC3302	B	C	3J
IC6080	B	C	20O
IC7501	A	D	20M
COIL			
L1	A	D	13E
L2	A	D	11C
L3	A	D	11C
L4	A	D	6F
L5	A	D	8F
L6	A	D	8F
L7	A	D	10G
L8	A	D	12I
L9	A	D	7G
L12	A	D	9C
L13	A	D	9B
L14	A	D	12H
L16	A	D	10B
L17	A	D	10F
L18	A	D	10E
L23	A	D	9G
L104	A	D	10H
L151	A	D	7F
L181	A	D	7G
L201	A	D	15J
L202	A	D	15L
L204	A	D	16J
L301	A	D	7C
L302	A	D	7D
L303	A	D	7E
L401	A	D	12C
L402	A	D	12C
L2001	A	D	13F
L2201	A	D	15C
L2251	A	D	14E
L2252	A	D	14D
L3001	A	D	11O
L3002	A	D	11P
L3003	A	D	12O
L3301	A	D	4H
L6001	A	D	20O
L6002	A	D	21M
L6031	A	D	18O
L6701	A	D	19N
L7501	A	D	19H
TRANSISTOR			
Q1	B	C	10E
Q6	B	C	8F
Q13	B	C	9C
Q14	B	C	9B
Q15	B	C	10C
Q16	B	C	10B
Q17	B	C	10C
Q18	B	C	12H
Q21	B	C	8G
Q36	B	C	12E
Q37	B	C	12E
Q47	B	C	9E
Q48	B	C	9E
Q49	B	C	9E
Q55	B	C	11B
Q57	B	C	8G
Q59	B	C	14F
Q101	B	C	11I
Q102	B	C	17H
Q103	B	C	9D
Q104	B	C	9D
Q152	B	C	11D
Q153	B	C	7F
Q154	B	C	7F
Q157	B	C	7G
Q158	B	C	8H
Q159	B	C	8H
Q160	B	C	8D
Q161	B	C	8F
Q204	B	C	15L
Q301	B	C	8C
Q302	B	C	6E
Q311	B	C	6C
Q312	B	C	6C
Q401	B	C	12B
Q402	B	C	12B
Q403	B	C	12C
Q404	B	C	12C
Q405	B	C	13C
Q2001	B	C	14G
Q2002	B	C	14G
Q2003	B	C	12L
Q2051	B	C	14K
Q2052	B	C	13K
Q2053	B	C	12K
Q2054	B	C	13K
Q2055	B	C	12K
Q2061	B	C	14L
Q2062	B	C	13K
Q2063	B	C	12K
Q2151	B	C	6F
Q2152	B	C	6F
Q2201	B	C	16B
Q2202	B	C	16B
Q2203	B	C	17B
Q2204	B	C	16B
Q2251	B	C	15E
Q2252	B	C	14E
Q2253	B	C	14D
Q2254	B	C	15B
Q2255	B	C	15B
Q2256	B	C	15B
Q2257	B	C	15B
Q2258	B	C	14D
Q2601	B	C	20B
Q2602	B	C	20A
Q2603	B	C	19C
Q2604	B	C	20C
Q2605	B	C	20F
Q3001	B	C	11P
Q3002	A	D	8P
Q3003	A	D	8B
Q3004	B	C	20L
Q3005	B	C	11K
Q3008	B	C	7O
Q3301	B	C	3E
Q3302	B	C	3E
Q3303	B	C	3E
Q3304	B	C	4E
Q3305	B	C	1H
Q3306	B	C	1H
Q4001	B	C	11N
Q6030	B	C	17P
Q6031	B	C	17O
Q6032	B	C	19O
Q7501	B	C	20G
Q7502	B	C	20H
Q7503	B	C	20H
RESISTOR			
R1	B	C	11C
R2	B	C	10D
R3	B	C	10E
R4	B	C	10E
R5	B	C	10E
R6	B	C	10E
R7	B	C	9F
R10	B	C	8F
R11	B	C	8F
R13	B	C	10G
R15	B	C	10G
R16	B	C	9H
R20	B	C	11H
R23	B	C	12I
R24	B	C	12H
R25	B	C	13H
R46	B	C	8C
R47	B	C	8C
R48	B	C	8C
R49	B	C	8C
R50	B	C	9C
R52	B	C	13F
R54	B	C	9C
R55	B	C	9C
R56	B	C	9G
R57	B	C	11C
R59	B	C	9F
R60	B	C	9G
R61	B	C	9G
R62	B	C	12H
R63	B	C	13H
R64	B	C	12H
R68	B	C	8E
R69	B	C	8E
R71	B	C	10D
R73	B	C	17G
R74	B	C	13H
R75	B	C	8H
R94	B	C	10C
R95	B	C	18H
R96	B	C	18H
R97	B	C	18F
R98	B	C	18F
R99	B	C	14G
R101	B	C	11I
R112	B	C	11D
R121	B	C	11B
R126	B	C	9D
R127	B	C	9D
R128	B	C	9D
R129	B	C	9D
R130	B	C	9D
R137	B	C	10E
R142	B	C	11B
R143	B	C	17G
R150	B	C	8F
R151	B	C	8D
R156	B	C	8F
R157	B	C	7F
R158	B	C	7F
R159	B	C	7F
R161	B	C	7G
R162	B	C	7G
R163	B	C	7G
R164	B	C	8G
R165	B	C	8G
R166	B	C	8H
R168	B	C	9E
R169	B	C	9E
R170	B	C	9E
R171	B	C	9E
R172	B	C	9D
R178	B	C	10E
R179	B	C	10E
R181	B	C	7F
R182	B	C	17G
R195	B	C	10H
R197	B	C	11I
R201	B	C	15L
R202	B	C	16L
R203	B	C	16L
R204	B	C	16L
R206	B	C	15L
R209	B	C	17L
R210	B	C	17L
R211	B	C	17K
R213	B	C	16J
R216	B	C	15K
R223	B	C	15K
R301	B	C	6C
R302	B	C	6C
R303	B	C	7C
R304	B	C	7C
R305	B	C	8C
R306	B	C	7D
R307	B	C	8D
R308	B	C	8D
R309	B	C	8E
R310	B	C	7D
R311	B	C	7E
R312	B	C	6D
R313	B	C	6D
R314	B	C	6E
R315	B	C	6E
R316	B	C	6E
R321	B	C	6C
R326	B	C	7D
R327	B	C	7E
R328	B	C	7E
R329	B	C	6D
R401	B	C	12B
R402	B	C	12B
R403	B	C	12D
R404	B	C	12C
R405	B	C	12C
R408	B	C	13C
R409	B	C	13C
R410	B	C	13D
R2001	B	C	13F
R2002	B	C	14G
R2003	B	C	13F
R2004	B	C	13G
R2005	B	C	13G
R2006	B	C	14G
R2007	B	C	13G
R2009	B	C	14H
R2010	B	C	14H
R2013	B	C	14H
R2014	B	C	13H
R2018	B	C	14H
R2019	B	C	14H
R2020	B	C	13G
R2051	B	C	14K
R2052	B	C	14K
R2053	B	C	14K
R2054	B	C	14L
R2055	B	C	14L
R2056	B	C	15J
R2057	B	C	13K
R2058	B	C	13K
R2059	B	C	13L
R2060	B	C	13K
R2061	B	C	14L
R2062	B	C	14L
R2063	B	C	14L
R2064	B	C	13K
R2065	B	C	12K
R2066	B	C	14L
R2151	B	C	6E
R2152	B	C	6F
R2201	B	C	17D
R2202	B	C	17D
R2203	B	C	17D
R2204	B	C	17E
R2205	B	C	17E
R2206	B	C	16E
R2207	B	C	16E
R2208	B	C	16E
R2209	B	C	16F
R2210	B	C	16F
R2211	B	C	15F
R2212	B	C	16E
R2213	B	C	16E
R2214	B	C	16E
R2215	B	C	16E
R2216	B	C	16E
R2217	B	C	16E
R2218	B	C	17C
R2219	B	C	16B
R2220	B	C	16B
R2221	B	C	16B
R2222	B	C	16B
R2225	B	C	17C
R2226	B	C	17C
R2227	B	C	17C
R2228	B	C	17D
R2229	B	C	17D
R2230	B	C	17C
R2231	B	C	17D
R2232	B	C	16C
R2233	B	C	16C
R2234	B	C	16C
R2235	B	C	16C
R2236	B	C	15F
R2237	B	C	15F
R2238	B	C	14D
R2239	B	C	14C
R2240	B	C	14C
R2241	B	C	16B
R2242	B	C	17B
R2243	B	C	16B
R2244	B	C	17C
R2251	B	C	15C
R2252	B	C	14D
R2253	B	C	15B
R2254	B	C	14D
R2255	B	C	15B
R2601	B	C	20F
R2602	B	C	20F
R2603	B	C	20F
R2604	B	C	20E
R2605	B	C	20E
R2606	B	C	20E
R2607	B	C	21E
R2608	B	C	21B
R2609	B	C	22B
R2610	B	C	21D
R2611	B	C	21C
R2612	B	C	21C
R2613	B	C	21C
R2614	B	C	21C
R2615	B	C	21A
R2616	B	C	21F
R2617	B	C	21E
R2618	B	C	21E
R2619	B	C	21E
R2620	B	C	19B
R2621	B	C	19B
R2622	B	C	19E
R2623	B	C	20B
R2624	B	C	20B
R2625	B	C	19B
R2626	B	C	20B
R2627	B	C	20B
R2628	A	D	20I
R2629	B	C	19D
R2630	B	C	19D
R2631	B	C	19D
R2632	B	C	19C
R2633	B	C	19C
R2634	B	C	21C
R2635	B	C	20D
R2636	B	C	20E
R2637	B	C	20C
R2638	B	C	20C
R2639	B	C	19D
R2640	B	C	20D
R2641	B	C	21D
R2642	B	C	19D
R2643	B	C	20C
R2644	B	C	19C
R2645	B	C	19C
R2646	B	C	21C
R2647	B	C	19F
R3011	B	C	10O
R3012	B	C	10O
R3013	B	C	10O
R3014	B	C	10O
R3015	B	C	10O
R3016	B	C	9O
R3017	B	C	9O
R3018	B	C	9O
R3019	B	C	9O
R3020	B	C	9O
R3021	B	C	9O
R3022	B	C	9O
R3025	B	C	9O
R3026	B	C	8O
R3027	B	C	8O
R3029	B	C	8O
R3030	B	C	8O
R3031	B	C	8O
R3033	B	C	8O
R3034	B	C	7O
R3035	B	C	7O
R3036	B	C	7O
R3037	B	C	7O
R3038	B	C	6O
R3039	B	C	6O
R3040	B	C	6O
R3041	B	C	6O
R3042	B	C	6O
R3044	B	C	6O
R3046	B	C	7O
R3047	B	C	7O
R3048	B	C	7N
R3049	B	C	7N
R3050	B	C	7N
R3051	B	C	7N
R3053	B	C	7N
R3054	B	C	6N
R3055	B	C	6N
R3056	B	C	6N
R3057	B	C	5N
R3059	B	C	6M
R3060	B	C	7M
R3061	B	C	7M
R3062	B	C	6M
R3063	B	C	6M
R3066	B	C	6L
R3069	B	C	7L
R3071	B	C	7L
R3072	B	C	7L
R3073	B	C	7L
R3074	B	C	7L
R3075	B	C	7L
R3076	B	C	8L
R3077	B	C	8K
R3078	B	C	8L
R3079	B	C	8K
R3080	B	C	8L
R3081	B	C	8K
R3083	B	C	8L
R3085	B	C	8L
R3086	B	C	8L
R3087	B	C	8K
R3088	B	C	9L
R3089	B	C	9K
R3090	B	C	9L
R3091	B	C	9L
R3092	B	C	9L
R3093	B	C	9L
R3094	B	C	9L
R3095	B	C	9L
R3096	B	C	9L
R3097	B	C	9L
R3103	B	C	10L
R3104	B	C	10M
R3105	B	C	10L
R3106	B	C	10M
R3201	B	C	11O
R3202	B	C	11P
R3203	B	C	10P
R3204	B	C	10P
R3205	A	D	7I
R3206	B	C	10P
R3207	B	C	3O
R3208	B	C	5D
R3209	B	C	5D
R3210	B	C	5K
R3211	B	C	5K
R3212	B	C	13L
R3213	B	C	6O
R3214	B	C	4M
R3215	B	C	4M
R3216	B	C	4M
R3217	B	C	7P
R3218	B	C	20K
R3219	B	C	20M
R3220	B	C	4L
R3222	B	C	11K
R3223	B	C	3K
R3224	B	C	3K
R3225	B	C	3N
R3226	B	C	6N
R3227	B	C	5N
R3228	B	C	6M
R3229	B	C	7M
R3230	B	C	6L
R3231	B	C	6L
R3232	B	C	9P
R3233	B	C	3P
R3234	B	C	7P
R3235	B	C	4O
R3236	B	C	4O
R3237	B	C	2N
R3238	B	C	2N
R3240	B	C	11L
R3242	B	C	9O
R3245	B	C	2N
R3246	B	C	9P
R3247	B	C	9P
R3252	B	C	10O
R3301	B	C	3H
R3302	B	C	2H
R3303	B	C	2H
R3304	B	C	2H
R3305	B	C	2H
R3306	B	C	1H
R3307	B	C	1H
R3308	B	C	2H
R3309	B	C	2H
R3310	B	C	2H
R3311	B	C	1G
R3312	B	C	1G
R3313	B	C	1G
R3314	B	C	1G
R3315	B	C	2E
R3316	B	C	2F
R3317	B	C	4F
R3318	B	C	4F
R3319	B	C	2E
R3320	B	C	2F
R3321	B	C	2E
R3322	B	C	2E
R3323	B	C	2E
R3324	B	C	2E
R3325	B	C	2E
R3326	B	C	2E
R3327	B	C	3F
R3328	B	C	3F
R3329	B	C	3F
R3330	B	C	3E
R3331	B	C	3E
R3332	B	C	3E
R3333	B	C	3E
R3334	B	C	3E
R3335	B	C	4E
R3336	B	C	4E
R3337	B	C	4F
R3338	B	C	4G
R3339	B	C	4G
R3340	B	C	4G
R3341	B	C	4G
R3342	B	C	3H
R3343	B	C	3I
R3344	B	C	3J
R3345	B	C	3J
R3346	B	C	3I
R3347	B	C	2E
R3348	B	C	4G
R3350	B	C	2E
R3351	B	C	1E
R3352	B	C	1E
R3353	B	C	1F
R3354	B	C	1F
R3355	B	C	1F
R3356	B	C	1F
R3357	B	C	1G
R3358	B	C	1G
R3359	B	C	1H
R3360	B	C	2H
R3361	B	C	3H
R3362	B	C	3H
R3363	B	C	3H
R3364	B	C	3H
R3365	B	C	4H
R3366	B	C	4H
R3367	B	C	4H
R3368	B	C	4F
R3369	B	C	4F
R3370	B	C	4F
R3371	B	C	3I
R3372	B	C	3I
R3373	B	C	3E
R3380	B	C	4F
R3381	B	C	4F
R3382	B	C	4F
R3383	B	C	3F
R3384	B	C	4F
R3385	B	C	4F
R3386	B	C	4F
R3387	B	C	4F
R3388	B	C	4H
R3389	B	C	1I
R3390	B	C	4F
R3391	B	C	4F
R3392	B	C	2I
R3393	B	C	4E
R3394	B	C	5G
R4001	B	C	11L
R4002	B	C	10N
R4003	B	C	10N
R4004	B	C	10N
R4005	B	C	10N
R4006	B	C	10N
R4007	B	C	10N
R4008	B	C	8O
R4009	B	C	10L
R4010	B	C	10L
R4011	B	C	10L
R4012	B	C	10L
R4013	B	C	10M
R4014	B	C	10L
R4015	B	C	10L
R4016	B	C	10L
R4017	B	C	10M
R4018	B	C	10M
R4019	B	C	11M
R4020	B	C	11M
R4021	B	C	11M
R6030	B	C	17O
R6031	B	C	17P
R6032	B	C	18O
R6033	B	C	19O
R6051	B	C	22P
R6052	B	C	21P
R6082	B	C	20P
R7501	B	C	20G
R7502	B	C	21G
R7503	B	C	20H
R7504	B	C	20H
R7505	B	C	20H
R7506	B	C	20H
VR2251	A	D	16B
TEST POINT			
TP106	A	D	14B
TP111	A	D	17G
TP2253	A	D	15F
TP2254	A	D	16F
TP3901	B	C	7O
TP3902	B	C	7N
TP3903	B	C	6M
TP3904	B	C	7L
TP3905	B	C	7M
TP3906	B	C	5M
TP3907	B	C	5M
TP3908	B	C	9K
TP4001	A	D	15M
OTHER			
CF3301	A	D	4G
CP3003	A	D	16N
CP3004	A	D	20M
CP4001	A	D	16O
FL7501	A	D	19H
FL7502	A	D	21G
PC3001	A	D	5E
PC3002	A	D	5L
S3001	A	D	1C
S3002	A	D	2N
S3003	A	D	3N
T2051	A	D	14K
T2052	A	D	14M
TU6001	A	D	22P
X1	A	D	10E
X3001	A	D	7M
X3002	A	D	7L

WAVEFORMS

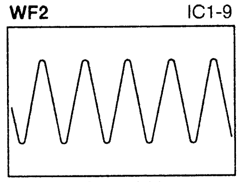
— VIDEO/N.AUDIO —

WF1 IC1-4



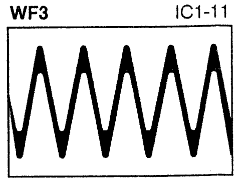
REC 0.75 Vp-p
20 mV/0.5 msec/DIV

WF2 IC1-9



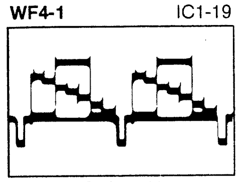
REC 0.96 Vp-p
2 mV/0.5 msec/DIV

WF3 IC1-11



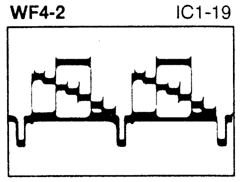
PB 0.48 Vp-p
10 mV/0.5 msec/DIV

WF4-1 IC1-19



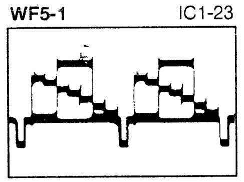
REC 0.51 Vp-p
20 mV/20 μsec/DIV

WF4-2 IC1-19



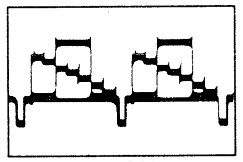
PB 0.55 Vp-p
20 mV/20 μsec/DIV

WF5-1 IC1-23



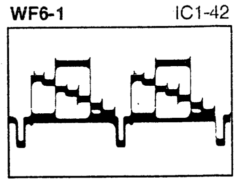
REC 0.48 Vp-p
20 mV/20 μsec/DIV

WF5-2 IC1-23



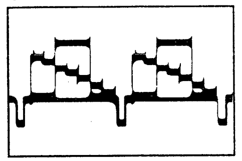
PB 0.52 Vp-p
20 mV/20 μsec/DIV

WF6-1 IC1-42



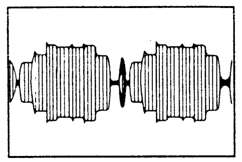
REC 0.4 Vp-p
10 mV/20 μsec/DIV

WF6-2 IC1-42



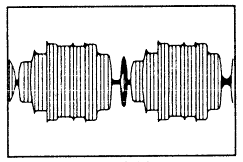
PB 0.43 Vp-p
10 mV/20 μsec/DIV

WF7-1 IC1-46



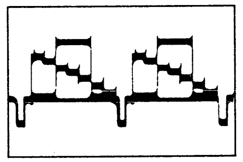
REC 0.3 Vp-p
10 mV/20 μsec/DIV

WF7-2 IC1-46



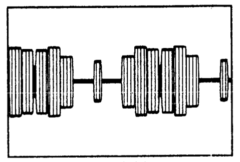
PB 0.3 Vp-p
10 mV/20 μsec/DIV

WF8 IC1-52



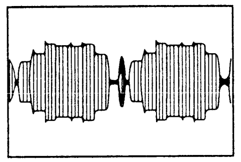
PB 2.2 Vp-p
50 mVV/20 μsec/DIV

WF9 IC1-55



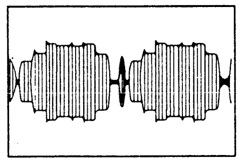
PB 0.6 Vp-p
20 mV/20 μsec/DIV

WF10-1 IC1-58



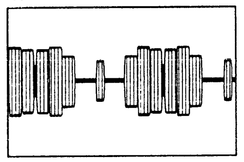
REC 0.5 Vp-p
10 mV/20 μsec/DIV

WF10-2 IC1-58



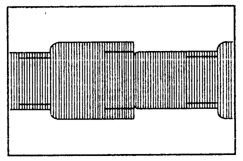
PB 0.48 Vp-p
10 mV/20 μsec/DIV

WF11-1 IC1-78



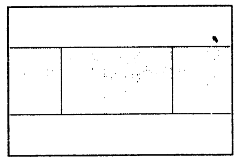
REC 0.62 Vp-p
20 mV/20 μsec/DIV

WF11-2 IC1-78



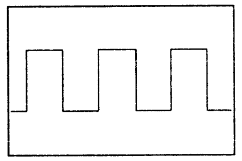
PB 0.22 Vp-p
10 mV/5 msec/DIV

WF12 IC1-87



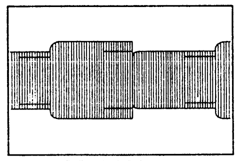
REC 1.6 Vp-p
50 mV/1 msec/DIV

WF13 TP111
D.FF



REC/PB 5.2 Vp-p
0.2 V/10 msec/DIV

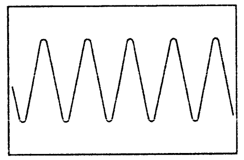
WF14 TP106
PB FM



PB 0.32 Vp-p
10 mV/5 msec/DIV

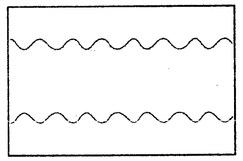
— FMA —

WF1 IC2201-9



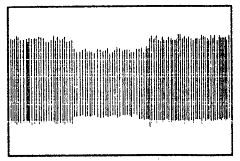
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF2 IC2201-21



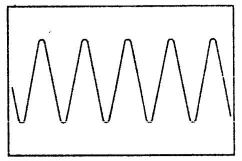
REC 1.1 Vp-p
20 mV/1 msec/DIV

WF3 IC2201-30



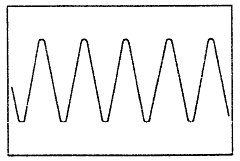
PB 1.0 Vp-p
50 mV/5 msec/DIV

WF4 IC2201-53



REC/PB 1.1 Vp-p
20 mV/0.5 msec/DIV

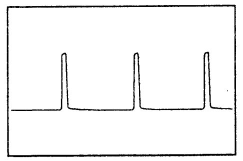
WF5 IC2201-61



REC 0.12 Vp-p
2 mV/0.5 msec/DIV

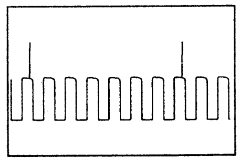
— SYSCON —

WF1 CN3001-4
D.PG



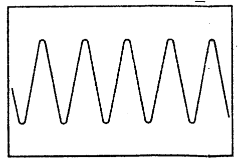
REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

WF2 CN3001-5
D.FG



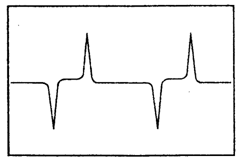
REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

WF3 CN3003-1
CAP_FG



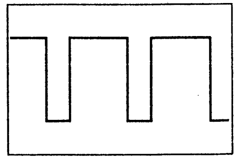
REC/PB 3.2 Vp-p
50 mV/0.5 msec/DIV

WF4 TP4001
CTL. P



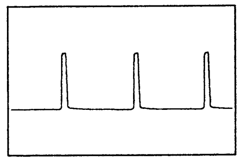
PB 2.3 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1
CTL(+)



REC 4.0 Vp-p
0.1 V/10 msec/DIV

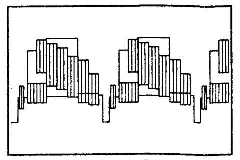
WF6 IC3001-98
VREF/C.SYNC



REC/PB 4.1 Vp-p
0.1 V/20 μsec/DIV

— VPS/PDC —

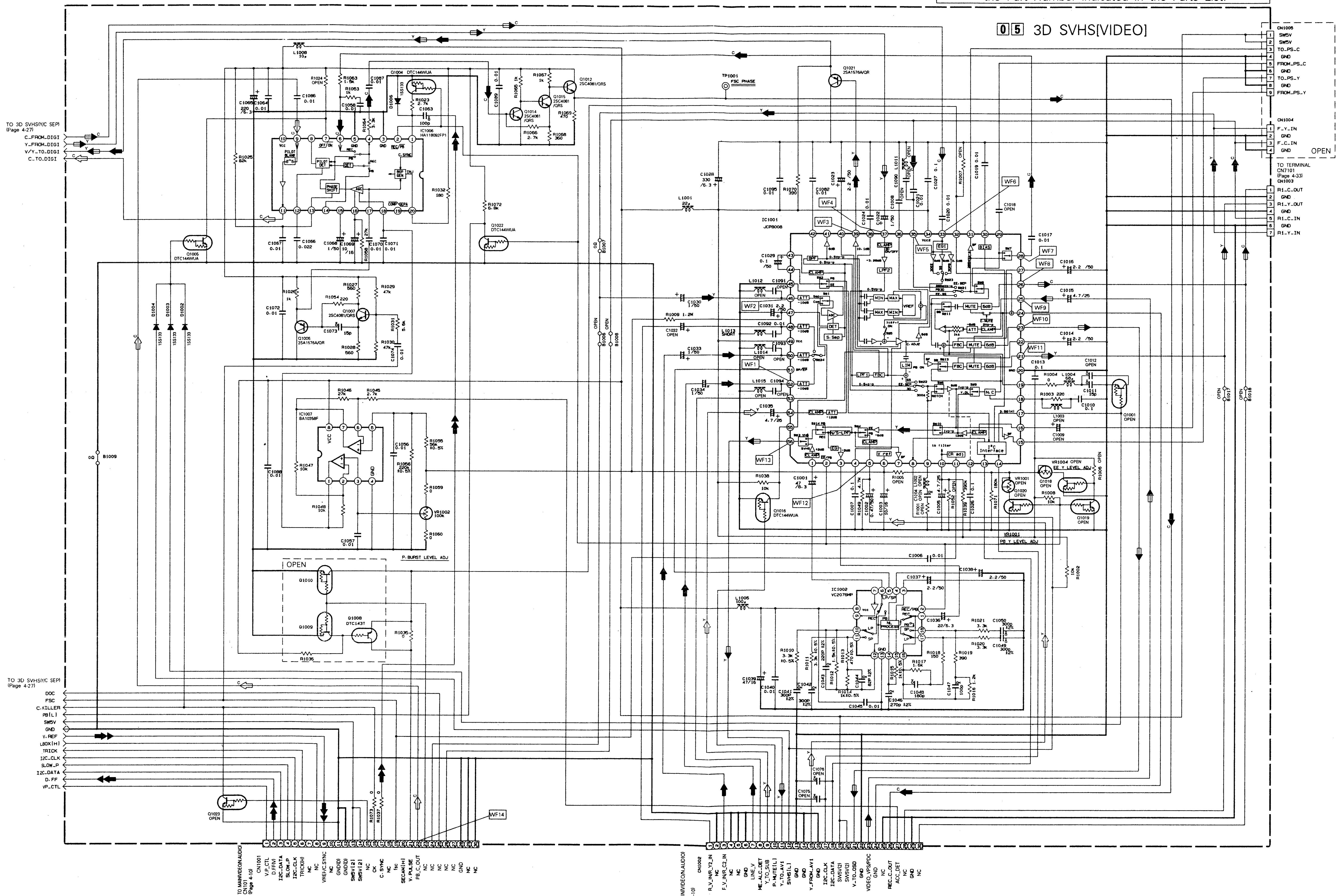
WF1 IC201-24



REC/PB 2.2 Vp-p
50 mV/20 μsec/DIV

4.11 3D SVHS(VIDEO) SCHEMATIC DIAGRAM

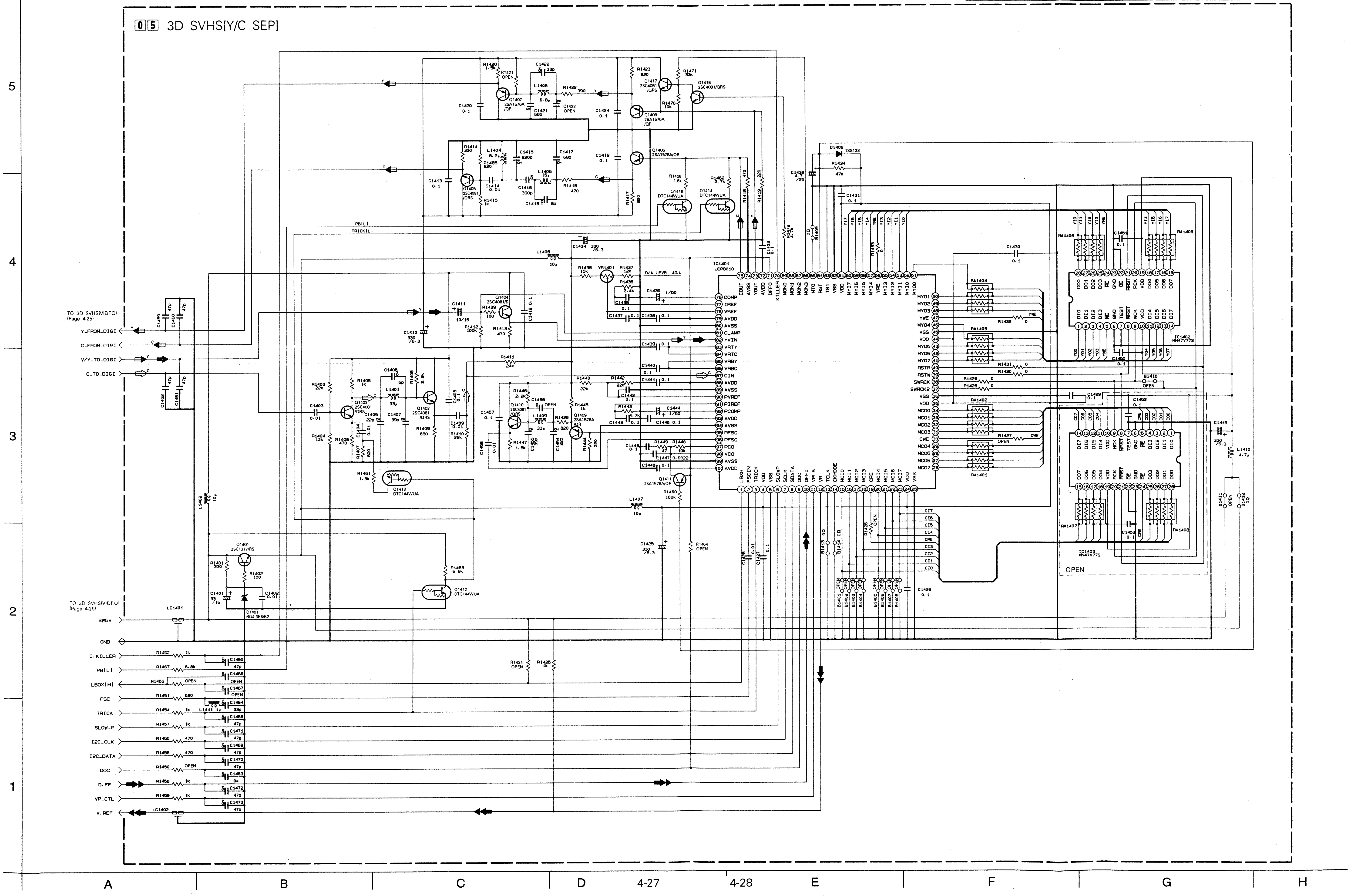
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


05 3D SVHS[VIDEO]
TO 3D SVHS(Y/C SEP) (Page 4-27)
C_FROM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
TO 3D SVHS(Y/C SEP) (Page 4-27)
DOC
FSC
C.KILLER
PB(L)
SW5V
GND
V.REF
LBOX(H)
TRICK
I2C_CLK
SLOW_P
I2C_DATA
D.FF
VP_CTL
CN1005
1 SW5V
2 SW5V
3 TO_PS_C
4 GND
5 FROM_PS_C
6 GND
7 TO_PS_Y
8 GND
9 FROM_PS_Y
CN1004
1 F_Y_IN
2 GND
3 F_C_IN
4 GND
OPEN
TO TERMINAL CN7101 (Page 4-33)
CN1003
1 R1_C_OUT
2 GND
3 R1_Y_OUT
4 GND
5 R1_C_IN
6 GND
7 R1_Y_IN
TO MAIN(VIDEO/N.AUDIO) CN101 (Page 4-10)
CN1001
1 V.P_CTL
2 D.FF(V)
3 I2C_DATA
4 SLOW_P
5 I2C_CLK
6 TRICK(H)
7 NC
8 NC
9 VREF/C.SYNC
10 NC
11 GND(D)
12 GND(D)
13 SW5V(2)
14 SW5V(2)
15 NC
16 CK
17 C.SYNC
18 NC
19 fsc
20 SECAM(H)
21 V.PULSE
22 PB_C_OUT
23 NC
24 NC
25 NC
26 NC
27 NC
28 GND
29 NC
30 NC
TO MAIN(VIDEO/N.AUDIO) CN102 (Page 4-10)
CN1002
1 R_V_IN/R_Y2_IN
2 NC
3 F_V_IN/R_C2_IN
4 NC
5 NC
6 GND
7 LINE_V
8 ME_ALC_DET
9 Y_TO_SUB
10 P.MUTE(L)
11 Y_TO_AV1
12 SVHS(L)
13 GND
14 GND
15 Y_FROM_AV1
16 GND
17 I2C_CLK
18 I2C_DATA
19 SW5V(2)
20 SW5V(2)
21 V_TO_OSD
22 GND
23 VIDEO_VPS/PDC
24 GND
25 NC
26 REC_C_OUT
27 ACC_DET
28 NC
29 GND
30 NC
IC1006 HA118092FP1
IC1001 JCP8008
IC1002 VC2076MF
IC1007 BA10358F
Q1004 DTC144WUA
Q1012 2SC4081/QRS
Q1015 2SC4081/QRS
Q1014 2SC4081/QRS
Q1021 2SA1576A/QR
Q1005 DTC144WUA
Q1022 DTC144WUA
Q1007 2SC4081/QRS
Q1006 2SA1576A/QR
Q1016 DTC144WUA
Q1001 OPEN
Q1018 OPEN
Q1019 OPEN
Q1020 OPEN
Q1008 DTC143T
Q1009
Q1010
Q1023 OPEN
TP1001 FSC PHASE
VR1002 100k
VR1001 PB Y LEVEL ADJ
VR1004 OPEN EE Y LEVEL ADJ
P.BURST LEVEL ADJ
OPEN
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
WF13
WF14
D1004 1SS133
D1003 1SS133
D1002 1SS133
B1009 0Ω
B1007 0Ω
B1006 OPEN
B1008 OPEN
B1017 OPEN
B1018 OPEN
1
2
3
4
5
A
B
C
D
E
F
G
H

NOTE : For VIDEO waveforms, please refer to page 4-31, 4-32.

4.12 3D SVHS(Y/C SEP) SCHEMATIC DIAGRAM

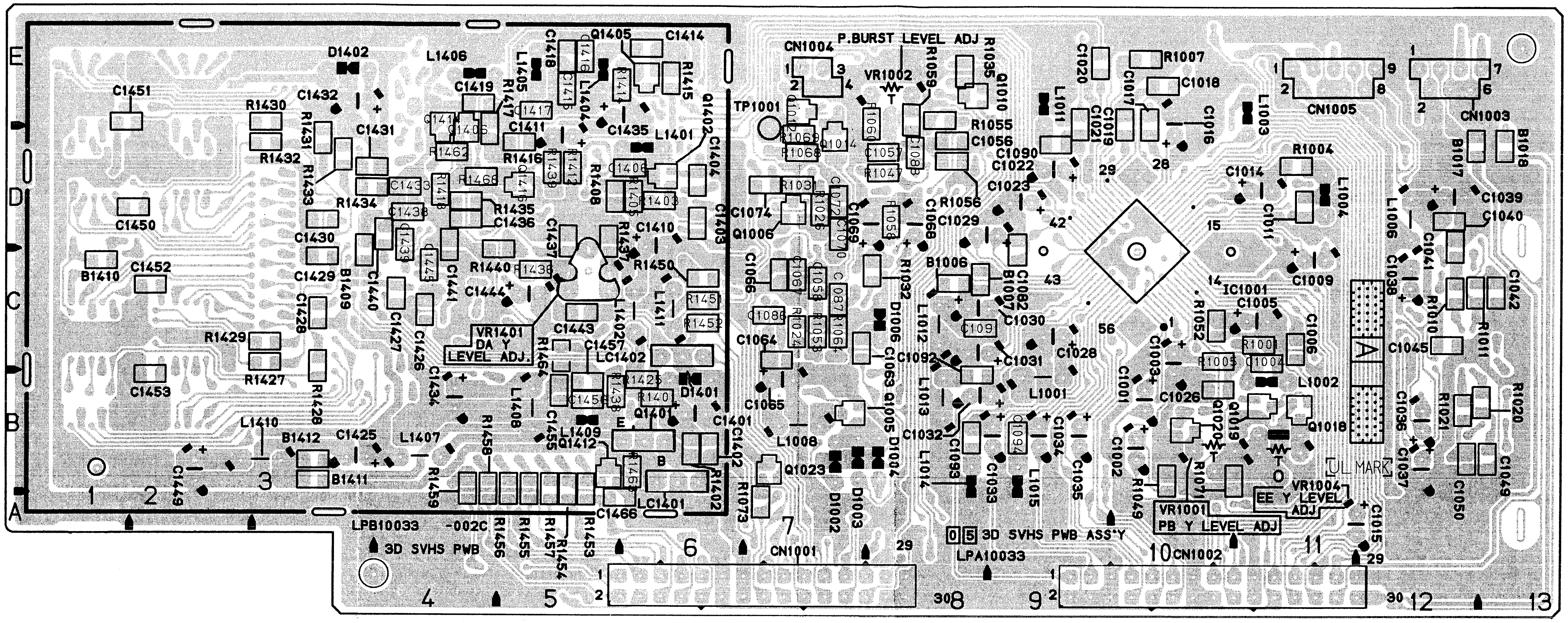
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



05 3D SVHS[Y/C SEP]
TO 3D SVHS(VIDEO) (Page 4-25)
Y_FROM_DIGI
C_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
SW5V
GND
C.KILLER
PB[L]
LBOX[H]
FSC
TRICK
SLOW_P
I2C_CLK
I2C_DATA
DOC
D.FF
VP_CTL
V.REF
LC1401
LC1402
Q1401 2SC1317/RS
D1401 RD4.3ES/B2
Q1402 2SC4081/QRS
Q1403 2SC4081/QRS
Q1404 2SC4081/S
Q1405 2SC4081/QRS
Q1406 2SA1576A/QR
Q1407 2SA1576A/QR
Q1408 2SA1576A/QR
Q1409 2SA1576A/QR
Q1410 2SC4081/QRS
Q1411 2SA1576A/QR
Q1412 DTC144WUA
Q1413 DTC144WUA
Q1414 DTC144WUA
Q1416 DTC144WUA
Q1417 2SC4081/QRS
Q1418 2SC4081/QRS
D1402 1SS133
VR1401
D/A LEVEL ADJ.
IC1401 JCP8010
COMP
IREF
VREF
AVDD
AVSS
CLAMP
YVIN
VRTY
VRTC
VRBY
VRBC
CIN
PVREF
PIREF
PCOMP
RFSC
PFSC
PCO
VCO
MYO1
MYO2
MYO3
YWE
MYO4
VSS
VDD
MYO5
MYO6
MYO7
RSTR
RSTW
SWRCK
SWRCK2
MCO0
MCO1
MCO2
MCO3
CWE
MCO4
MCO5
MCO6
MCO7
LBXH
FSCIN
TRICK
SLOWP
SCLK
SDATA
DOC
DFFI
VPLS
VR
TCLK
CKMODE
MCI0
MCI1
MCI2
MCI3
CRE
MCI4
MCI5
MCI6
MCI7
COUT
YOUT
DFFO
KILLER
MON0
MON1
MON2
MON3
MTO
RST
TS1
MYI7
MYI6
MYI5
MYI4
YRE
MYI3
MYI2
MYI1
MYI0
IC1402 MN47V77S
IC1403 MN47V77S
RA1401
RA1402
RA1403
RA1404
RA1405
RA1406
RA1407
RA1408
OPEN
A
B
C
D
E
F
G
H
1
2
3
4
5

4.13 3D SVHS CIRCUIT BOARD

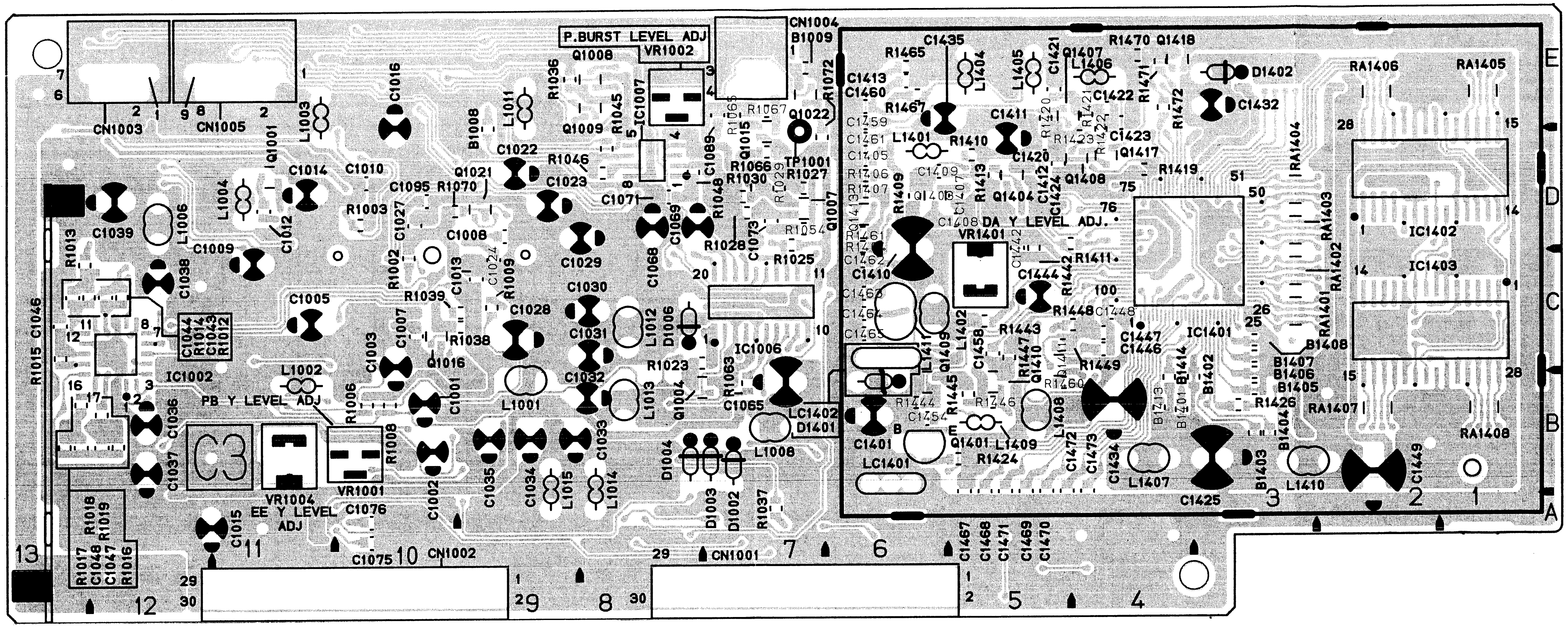
— FOIL SIDE (B) —



COMPONENT PARTS LOCATION GUIDE <3D SVHS>

REF.NO.	LOCATION		
CAPACITOR			
C1001	A	D	10B
C1002	A	D	10B
C1003	A	D	10C
C1004	B	C	11C
C1005	A	D	11C
C1006	B	C	11C
C1007	A	C	10C
C1008	A	C	9D
C1009	A	D	11C
C1010	A	C	10D
C1011	B	C	11D
C1012	A	C	11D
C1013	A	C	9C
C1014	A	D	11D
C1015	A	D	12A
C1016	A	D	10D
C1017	B	C	10E
C1018	B	C	10E
C1019	B	C	10E
C1020	B	C	9E
C1021	B	C	9E
C1022	A	D	9D
C1023	A	D	9D
C1024	A	C	9C
C1026	B	C	10B
C1027	A	C	10D
C1028	A	D	9C
C1029	A	D	9D
C1030	A	D	8C
C1031	A	D	9C
C1032	A	D	9B
C1033	A	D	9B
C1034	A	D	9B
C1035	A	D	9B
C1036	A	D	12B
C1037	A	D	12B
C1038	A	D	12C
C1039	A	D	12D
C1040	B	C	12D
C1041	B	C	12D
C1042	B	C	13C
C1043	A	C	12C
C1044	A	C	13C
C1045	B	C	12C
C1046	A	C	13C
C1047	A	C	12B
C1048	A	C	13B
C1049	B	C	13B
C1050	B	C	12B
C1056	B	C	8D
C1057	B	C	8D
C1058	B	C	7C
C1063	B	C	7C
C1064	B	C	7C
C1065	A	D	7B
C1066	B	C	7C
C1067	B	C	7C
C1068	A	D	8D
C1069	A	D	8D
C1070	B	C	7D
C1071	A	C	8D
C1072	B	C	7D
C1073	A	C	7D
C1074	B	C	7D
C1075	A	C	10A
C1076	A	C	10A
C1082	B	C	9D
C1086	B	C	7C
C1087	B	C	7C
C1088	B	C	8D
C1089	A	C	7E
C1090	B	C	9D
C1091	B	C	8C
C1092	B	C	8B
C1093	B	C	8B
C1094	B	C	9B
C1095	A	C	10D
C1401	A	D	6B
C1402	B	C	6B
C1403	B	C	6D
C1404	B	C	6D
C1405	A	C	6D
C1406	B	C	6D
C1407	A	C	5D
C1408	A	C	5D
C1409	A	C	6D
C1410	A	D	6D
C1411	A	D	5D
C1412	A	C	5D
C1413	A	C	6E
C1414	B	C	6E
C1415	B	C	5E
C1416	B	C	5E
C1417	B	C	5E
C1418	B	C	5E
C1419	B	C	4E
C1420	A	C	5D
C1421	A	C	5E
C1422	A	C	4E
C1423	A	C	4E
C1424	A	C	5D
C1425	A	D	3B
C1426	B	C	4C
C1427	B	C	4C
C1428	B	C	3C
C1429	B	C	3C
C1430	B	C	3D
C1431	B	C	3D
C1432	A	D	3E
C1433	B	C	4D
C1434	A	D	4B
C1435	A	D	5E
C1436	B	C	4D
C1437	B	C	5D
C1438	B	C	4D
C1439	B	C	4D
C1440	B	C	4D
C1441	B	C	4D
C1442	A	C	5D
C1443	B	C	5C
C1444	A	D	5C
C1445	B	C	4C
C1446	A	C	4C
C1447	A	C	4C
C1448	A	C	4C
C1449	A	D	2B
C1450	B	C	2D
C1451	B	C	1E
C1452	B	C	2C
C1453	B	C	2B
C1454	A	C	6B
C1455	B	C	5B
C1456	B	C	5B
C1457	B	C	5B
C1458	A	C	5C
C1459	A	C	6E
C1460	A	C	6E
C1461	A	C	6D
C1462	A	C	6C
C1463	A	C	6C
C1464	A	C	6C
C1465	A	C	6C
C1466	B	C	6A
C1467	A	C	5B
C1468	A	C	5B
C1469	A	C	5B
C1470	A	C	5B
C1471	A	C	5B
C1472	A	C	5B
C1473	A	C	4B
CONNECTOR			
CN1001	A	D	6A
CN1002	A	D	9A
CN1003	A	D	12E
CN1004	A	D	7E
CN1005	A	D	11E
DIODE			
D1002	A	D	7B
D1003	A	D	7B
D1004	A	D	8B
D1006	A	D	8C
D1401	A	D	6B
D1402	A	D	3E
IC			
IC1001	B	C	10D
IC1002	A	C	12C
IC1006	A	C	7C
IC1007	A	C	8D
IC1401	A	C	4D
IC1402	A	C	2D
IC1403	A	C	2C
COIL			
L1001	A	D	9B
L1002	A	D	11B
L1003	A	D	11D
L1004	A	D	11D
L1006	A	D	12D
L1008	A	D	7B
L1011	A	D	9E
L1012	A	D	8C
L1013	A	D	8B
L1014	A	D	8A
L1015	A	D	9A
L1401	A	D	6D
L1402	A	D	6C
L1404	A	D	5E
L1405	A	D	5E
L1406	A	D	4E
L1407	A	D	4B
L1408	A	D	5B
L1409	A	D	5B
L1410	A	D	3B
L1411	A	D	6C
TRANSISTOR			
Q1001	A	C	11D
Q1004	A	C	8B
Q1005	B	C	7B
Q1006	B	C	7D
Q1007	A	C	7D
Q1008	A	C	8E
Q1009	A	C	8E
Q1010	B	C	8E
Q1012	B	C	7E
Q1014	B	C	7D
Q1015	A	C	7E
Q1016	A	C	10C
Q1018	B	C	11B
Q1019	B	C	11B
Q1020	B	C	10B
Q1021	A	C	9D
Q1022	A	C	7E
Q1023	B	C	7B
Q1401	A	D	6B
Q1402	B	C	6D
Q1403	A	C	6D
Q1404	A	C	5D
Q1405	B	C	6E
Q1406	B	C	4D
Q1407	A	C	5E
Q1408	A	C	4D
Q1409	A	C	6B
Q1410	A	C	5B
Q1411	A	C	5C
Q1412	B	C	5B
Q1413	A	C	6D
Q1414	B	C	4D
Q1416	B	C	5D
Q1417	A	C	4D
Q1418	A	C	4E
RESISTOR			
R1001	B	C	11C
R1002	A	C	10C
R1003	A	C	10D
R1004	B	C	11D
R1005	B	C	10C
R1006	A	C	10B
R1007	B	C	10E
R1008	A	C	10B
R1009	A	C	9C
R1010	B	C	12C
R1011	B	C	12C
R1012	A	C	12C
R1013	A	C	13C
R1014	A	C	13C
R1015	A	C	13C
R1016	A	C	12B
R1017	A	C	13B
R1018	A	C	13B
R1019	A	C	12B
R1020	B	C	13B
R1021	B	C	12B
R1023	A	C	8C
R1024	B	C	7C
R1025	A	C	7D
R1026	B	C	7D
R1027	A	C	7D
R1028	A	C	7D
R1029	A	C	7D
R1030	A	C	7D
R1031	B	C	7D
R1032	B	C	8C
R1035	B	C	8E
R1036	A	C	9E
R1037	A	C	7A
R1038	A	C	9C
R1039	A	C	9C
R1045	A	C	8D
R1046	A	C	8D
R1047	B	C	8D
R1048	A	C	8D
R1049	B	C	10B
R1052	B	C	10C
R1053	B	C	7C
R1054	A	C	7D
R1055	B	C	8E
R1056	B	C	8D
R1058	B	C	8D
R1059	B	C	8E
R1060	B	C	8E
R1063	A	C	7B
R1064	B	C	7C
R1065	A	C	7E
R1066	A	C	7D
R1067	A	C	7E
R1068	B	C	7D
R1069	B	C	7D
R1070	A	C	10D
R1071	B	C	11B
R1072	A	C	7D
R1073	B	C	7A
R1401	B	C	6B
R1402	B	C	6B
R1403	B	C	6D
R1404	A	C	6D
R1405	B	C	6D
R1406	A	C	6D
R1407	A	C	6D
R1408	B	C	5D
R1409	A	C	6D
R1410	A	C	5D
R1411	A	C	5D
R1412	B	C	5D
R1413	A	C	5D
R1414	B	C	6E
R1415	B	C	6E
R1416	B	C	5D
R1417	B	C	4D
R1418	B	C	4D
R1419	A	C	4D
R1420	A	C	5E
R1421	A	C	4E
R1422	A	C	4E
R1423	A	C	4D
R1424	A	C	5B
R1425	B	C	6B
R1426	A	C	3B
R1427	B	C	3C
R1428	B	C	3C
R1429	B	C	3C
R1430	B	C	3E
R1431	B	C	3D
R1432	B	C	3D
R1433	B	C	3D
R1434	B	C	3D
R1435	B	C	4D
R1436	B	C	5C
R1437	B	C	5D
R1438	B	C	5B
R1439	B	C	5D
R1440	B	C	5D
R1442	A	C	5D
R1443	A	C	5C
R1444	A	C	6B
R1445	A	C	5B
R1446	A	C	5B
R1447	A	C	5C
R1448	A	C	4C
R1449	A	C	5C
R1450	B	C	6C
R1451	B	C	6C
R1452	B	C	6C
R1453	B	C	5B
R1454	B	C	5B
R1455	B	C	5B
R1456	B	C	5B
R1457	B	C	5B
R1458	B	C	4B
R1459	B	C	4B
R1460	A	C	5B
R1461	A	C	6D
R1462	B	C	4D
R1463	B	C	6B
R1464	B	C	5C
R1465	A	C	6E
R1467	A	C	6E
R1468	B	C	4D
R1470	A	C	4E
R1471	A	C	4E
R1472	A	C	4E
RA1401	A	C	3C
RA1402	A	C	3C
RA1403	A	C	3D
RA1404	A	C	3D
RA1405	A	C	1E
RA1406	A	C	2E
RA1407	A	C	2B
RA1408	A	C	1B
VR1001	A	D	10B
VR1002	A	D	8E
VR1004	A	D	11B
VR1401	A	D	5C
OTHER			
LC1401	A	D	6B
LC1402	A	D	6C
TP1001	A	D	7E

— COMPONENT SIDE (A) —


P.BURST LEVEL ADJ
VR1002
Q1008
CN1004
B1009
CN1003
CN1005
DA Y LEVEL ADJ.
VR1401
PB Y LEVEL ADJ
EE Y LEVEL ADJ
VR1004
VR1001
C3
IC1001
IC1002
IC1006
IC1007
IC1401
IC1402
IC1403
CN1001
CN1002
TP1001
RA1405
RA1406
RA1407
RA1408
D1401
D1402
LC1401
LC1402
A
B
C
D
E
1
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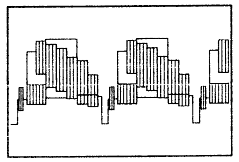
13

WAVEFORMS

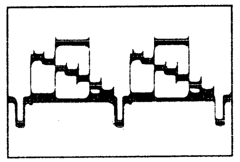
— 3D SVHS(VIDEO) —

WF1 IC1001-52



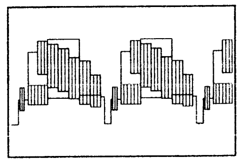
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF2 IC1001-46



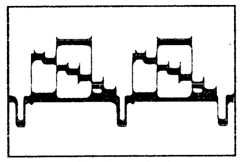
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF3 IC1001-39



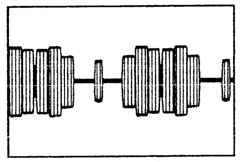
REC/PB 1.8 Vp-p
50 mV/20 µsec/DIV

WF4 IC1001-37



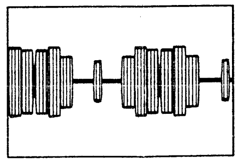
REC/PB 0.8 Vp-p
20 mV/20 µsec/DIV

WF5 IC1001-35



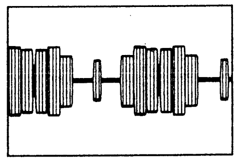
REC 0.65 Vp-p
20 mV/20 µsec/DIV

WF6-1 IC1001-33



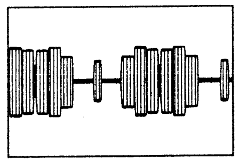
REC 0.35 Vp-p
10 mV/20 µsec/DIV

WF6-2 IC1001-33



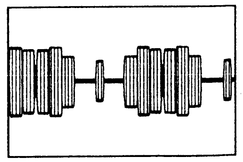
PB 0.42 Vp-p
10 mV/20 µsec/DIV

WF7 IC1001-28



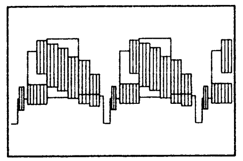
REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF8 IC1001-26



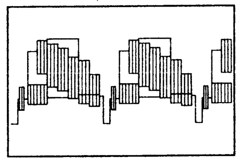
REC/PB 1.4 Vp-p
50 mV/20 µsec/DIV

WF9 IC1001-25



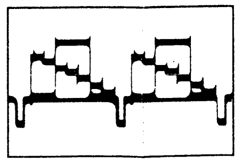
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF10 IC1001-23



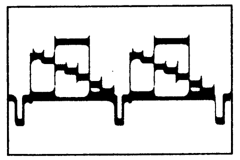
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF11 IC1001-21



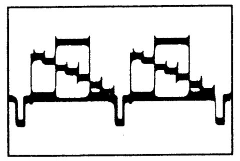
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF12 IC1001-5



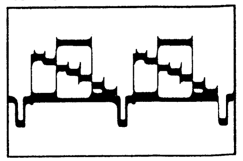
PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF13-1 IC1001-56



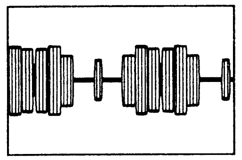
REC 0.52 Vp-p
20 mV/20 µsec/DIV

WF13-2 IC1001-56



PB 0.56 Vp-p
20 mV/20 µsec/DIV

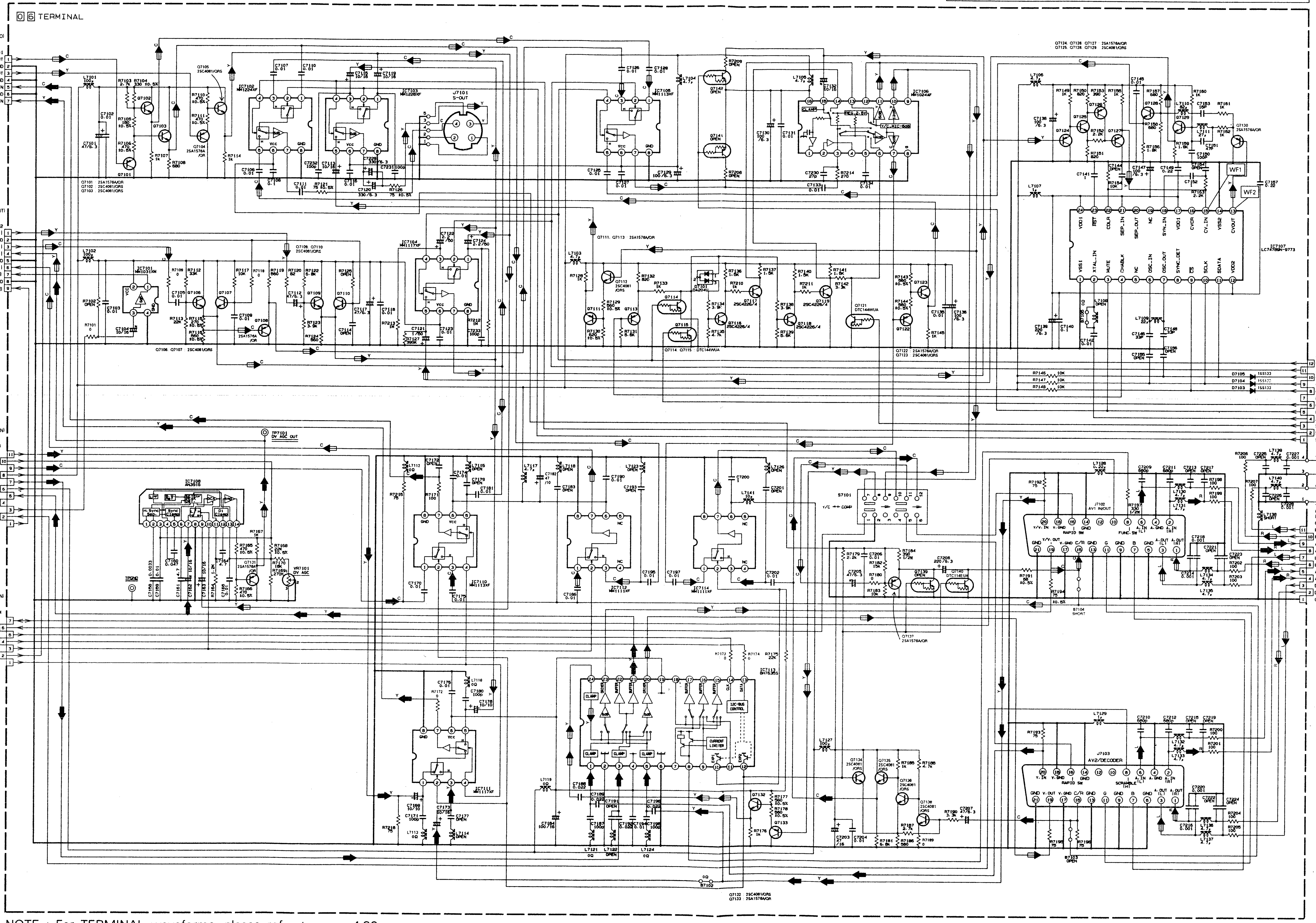
WF14 CN1001-22



PB 0.62 Vp-p
20 mV/20 µsec/DIV

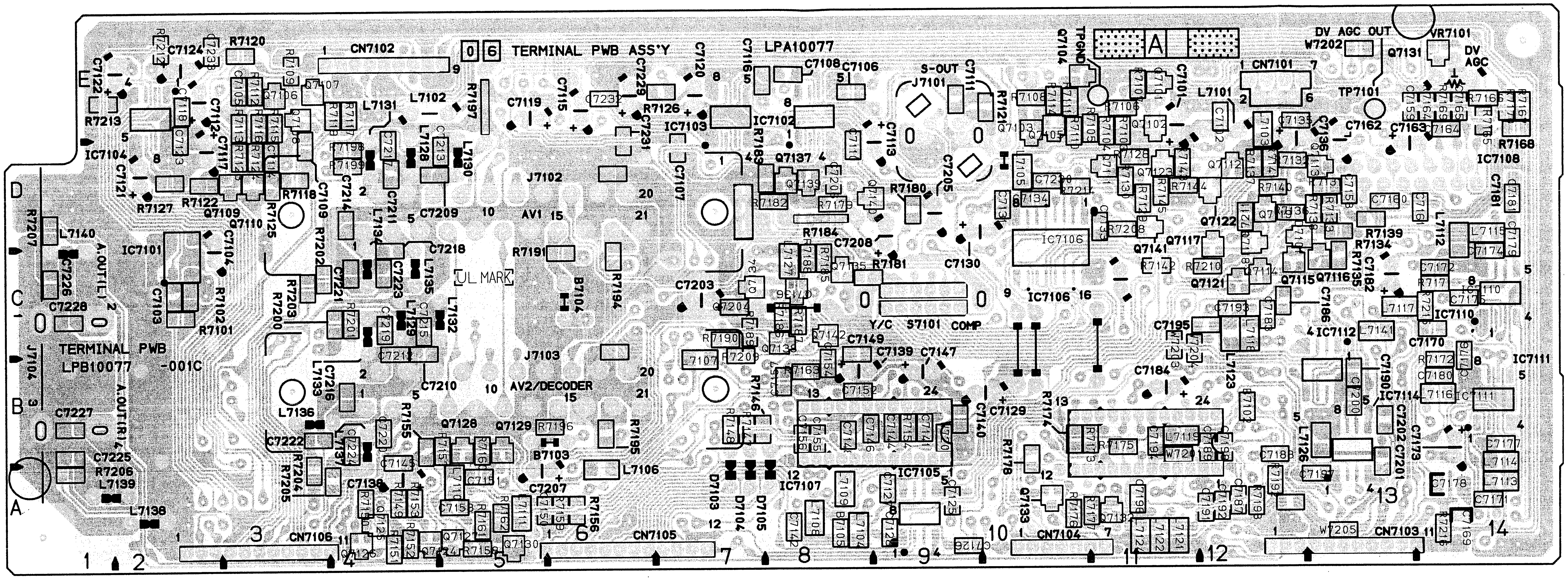
4.14 TERMINAL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


06 TERMINAL
TO 3D SVHS(VIDEO) CN1003 (Page 4-26)
CN7101
R1_C_OUT
GND
R1_Y_OUT
GND
R1_C_IN
GND
R1_Y_IN
TO DV MAIN(V OUT) CN3701 (Page 4-68)
CN7102
Y_PB(DV)
GND
C_PB(DV)
Y/V_REC(DV)
GND
C_REC(DV)
Cb_PB
GND
Cr_PB
TO TERMINAL(MAIN) CN7503 (Page 4-19)
CN7103
FRONT_Y_IN
REG_D.5V
FRONT_C_IN
SW.5V
TU_VIDEO
CH1_12V
LINE_VIDEO
GND
S/P_Y_IN
SCR(H)
S/P_C_IN
TO TERMINAL(MAIN) CN7504 (Page 4-19)
CN7104
P50_1/0
PERI(S)
I2C_CLK2
I2C_DATA2
DV_VHS(H)
DV_P_MUTE(H)
VHS_DV(H)
IC7101 MM1031XM
IC7102 MM1224XF
IC7103 MM1226XF
IC7104 MM1113XF
IC7105 MM1113XF
IC7106 MM1024XF
IC7107 LC74781N-9773
IC7108 AN3815
IC7110 MM1113XF
IC7111 MM1113XF
IC7112 MM1113XF
IC7113 BH7635S
IC7114 MM1113XF
J7101 S-OUT
J7102 AV1 IN/OUT
J7103 AV2/DECODER
J7104
S7101
VR7501 DV AGC
TP7101 DV AGC OUT
TPGND
WF1
WF2
TO TERMINAL(MAIN) CN7505 (Page 4-19)
CN7105
B.BACK(H)
AV1_DV(H)
OSD_DATA
OSD_CLK
OSD_CSB
NC
OSD_P_CTL(L)
P.MUTE(L)
2fsc
SECAM/MESECAM(H)
SOUT_AV1(H)
SOUT_DV(H)
A.OUT(R)
A.OUT(L)
TO TERMINAL(MAIN) CN7506 (Page 4-19)
CN7106
RCA_A.OUT(L)
RCA_A.OUT(R)
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC.OUT(L)
DEC.OUT(R)
GND

NOTE : For TERMINAL waveforms, please refer to page 4-36.

4.15 TERMINAL CIRCUIT BOARD



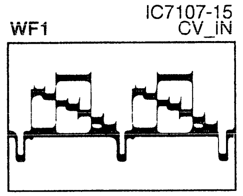
COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C7101	A	D	11E
C7102	B	C	12E
C7103	B	C	2C
C7104	A	D	2D
C7105	B	C	3E
C7106	B	C	8E
C7107	B	C	7D
C7108	B	C	8E
C7109	B	C	3D
C7110	B	C	8D
C7111	B	C	9E
C7112	A	D	2E
C7113	A	D	9E
C7114	B	C	3D
C7115	A	D	6E
C7116	B	C	7E
C7117	A	D	2D
C7118	B	C	2E
C7119	A	D	5E
C7120	A	D	7E
C7121	A	D	2D
C7122	A	D	2E
C7123	B	C	2E
C7124	A	D	2E
C7125	B	C	9A
C7126	B	C	9A
C7127	B	C	9A
C7128	B	C	9A
C7129	A	D	10B
C7130	A	D	9D
C7131	B	C	10D
C7132	A	D	11C
C7133	B	C	11D
C7134	B	C	10D
C7135	B	C	12E
C7136	A	D	12D
C7138	A	D	4A
C7139	A	D	8B
C7140	B	C	9B
C7141	B	C	9B
C7142	B	C	8A
C7144	B	C	9B
C7145	B	C	4B
C7146	B	C	8B
C7147	A	D	9B
C7148	B	C	8B
C7149	B	C	8B
C7150	B	C	5A
C7151	B	C	5A
C7152	B	C	8B
C7153	B	C	5A
C7154	B	C	8B
C7155	B	C	8B
C7156	B	C	8B
C7157	B	C	8B
C7158	B	C	13D
C7159	B	C	13E
C7160	B	C	13D
C7161	B	C	14D
C7162	A	D	13E
C7163	A	D	13D
C7164	B	C	14E
C7165	B	C	14E
C7169	B	C	14A
C7170	B	C	14C
C7171	B	C	14A
C7172	B	C	14C
C7173	A	D	14B
C7174	B	C	14C
C7175	B	C	14C
C7176	B	C	14B
C7177	B	C	14B
C7178	B	C	14A
C7179	B	C	14C
C7180	B	C	14B
C7181	B	C	14D
C7182	A	D	13C
C7183	B	C	12C
C7184	A	D	11B
C7186	B	C	12C
C7187	B	C	12A
C7188	B	C	12B
C7189	B	C	12B
C7190	B	C	13B
C7191	B	C	12A
C7192	B	C	12A
C7193	B	C	12C
C7194	B	C	11B
C7195	B	C	12C
C7196	B	C	11A
C7197	B	C	13A
C7198	B	C	12B
C7200	B	C	13B
C7201	B	C	13A
C7202	B	C	13B
C7203	A	D	7C
C7204	B	C	7C
C7205	A	D	9D
C7206	B	C	8D
C7207	A	D	6A
C7208	A	D	9C
C7209	B	C	4D
C7210	B	C	4C
C7211	B	C	4D
C7212	B	C	4C
C7213	B	C	5D
C7214	B	C	4D
C7215	B	C	4C
C7216	B	C	4B
C7217	B	C	4D
C7218	B	C	4C
C7219	B	C	4C
C7220	B	C	4B
C7221	B	C	4C
C7222	B	C	3B
C7223	B	C	4C
C7224	B	C	4B
C7225	B	C	1B
C7226	B	C	1C
C7227	B	C	1B
C7228	B	C	1C
C7229	A	D	6E
C7230	B	C	10D
C7231	B	C	6D
C7232	B	C	6E
C7233	B	C	2E
CONNECTOR			
CN7101	A	D	12E
CN7102	A	D	3E
CN7103	A	D	12A
CN7104	A	D	10A
CN7105	A	D	6A
CN7106	A	D	2A
DIODE			
D7101	B	C	12D
D7103	A	D	7B
D7104	A	D	7B
D7105	A	D	8B
IC			
IC7101	B	C	2C
IC7102	B	C	8E
IC7103	B	C	7E
IC7104	B	C	2E
IC7105	B	C	9A
IC7106	B	C	10C
IC7107	A	D	9B
IC7108	A	D	13D
IC7110	B	C	14C
IC7111	B	C	14B
IC7112	B	C	13B
IC7113	A	D	12A
IC7114	B	C	13B
JACK			
J7101	A	D	9E
J7102	A	D	5D
J7103	A	D	5B
J7104	A	D	1B
COIL			
L7101	A	D	12E
L7102	A	D	5E
L7103	B	C	12E
L7104	B	C	8A
L7105	B	C	10D
L7106	B	C	6A
L7107	B	C	7B
L7108	B	C	8A
L7109	B	C	8A
L7110	B	C	5A
L7111	B	C	5A
L7112	B	C	14D
L7113	B	C	14A
L7114	B	C	14A
L7115	B	C	14D
L7116	B	C	14B
L7117	B	C	13C
L7118	B	C	12C
L7119	B	C	11B
L7121	B	C	11A
L7122	B	C	11A
L7123	B	C	12C
L7124	B	C	11A
L7126	B	C	13B
L7127	B	C	8C
L7128	A	D	4D
L7129	A	D	4C
L7130	A	D	5D
L7131	A	D	4D
L7132	A	D	5C
L7133	A	D	4C
L7134	A	D	4C
L7135	A	D	4C
L7136	A	D	4B
L7137	A	D	4B
L7138	A	D	2A
L7139	A	D	1A
L7140	A	D	1C
L7141	B	C	13C
TRANSISTOR			
Q7101	B	C	11E
Q7102	B	C	11E
Q7103	B	C	10E
Q7104	B	C	10E
Q7105	B	C	10E
Q7106	B	C	3E
Q7107	B	C	3E
Q7108	B	C	3E
Q7109	B	C	3D
Q7110	B	C	3D
Q7111	B	C	11D
Q7112	B	C	12D
Q7113	B	C	13D
Q7114	B	C	12C
Q7115	B	C	12C
Q7116	B	C	13C
Q7117	B	C	12C
Q7118	B	C	12C
Q7119	B	C	12D
Q7121	B	C	12C
Q7122	B	C	12D
Q7123	B	C	11D
Q7124	B	C	4A
Q7125	B	C	4A
Q7126	B	C	4A
Q7127	B	C	5A
Q7128	B	C	5B
Q7129	B	C	5B
Q7130	B	C	5A
Q7131	B	C	14E
Q7132	B	C	11A
Q7133	B	C	10A
Q7134	B	C	7C
Q7135	B	C	8C
Q7136	B	C	8C
Q7137	B	C	8D
Q7138	B	C	8C
Q7139	B	C	8D
Q7140	B	C	8D
Q7141	B	C	11D
Q7142	B	C	8C
RESISTOR			
R7101	B	C	2C
R7102	B	C	2C
R7103	B	C	11E
R7104	B	C	11E
R7105	B	C	11E
R7106	B	C	11E
R7107	B	C	11E
R7108	B	C	10E
R7109	B	C	3E
R7110	B	C	10E
R7111	B	C	10E
R7112	B	C	3E
R7113	B	C	3E
R7114	B	C	10E
R7115	B	C	3E
R7116	B	C	3E
R7117	B	C	4E
R7118	B	C	3D
R7119	B	C	4E
R7120	B	C	3E
R7121	B	C	10E
R7122	B	C	2D
R7123	B	C	3D
R7124	B	C	3D
R7125	B	C	3D
R7126	B	C	7E
R7127	B	C	2D
R7128	B	C	11D
R7129	B	C	11D
R7130	B	C	11D
R7131	B	C	13D
R7132	B	C	12D
R7133	B	C	13D
R7134	B	C	13D
R7135	B	C	13C
R7136	B	C	12D
R7137	B	C	12D
R7138	B	C	13D
R7139	B	C	13D
R7140	B	C	12D
R7141	B	C	12D
R7142	B	C	11C
R7143	B	C	11D
R7144	B	C	11D
R7145	B	C	11D
R7146	B	C	7B
R7147	B	C	7B
R7148	B	C	7B
R7149	B	C	4A
R7150	B	C	4A
R7151	B	C	4A
R7152	B	C	4A
R7153	B	C	4A
R7154	B	C	9B
R7155	B	C	4B
R7156	B	C	6A
R7157	B	C	5B
R7158	B	C	5A
R7159	B	C	6A
R7160	B	C	5B
R7161	B	C	5A
R7162	B	C	5A
R7163	B	C	8B
R7164	B	C	14E
R7165	B	C	14E
R7166	B	C	14E
R7167	B	C	14E
R7168	B	C	14E
R7169	B	C	14E
R7170	B	C	14E
R7171	B	C	14C
R7172	B	C	14B
R7173	B	C	11B
R7174	B	C	10B
R7175	B	C	11B
R7176	B	C	10A
R7177	B	C	11A
R7178	B	C	10B
R7179	B	C	8D
R7180	B	C	9D
R7181	B	C	8C
R7182	B	C	8D
R7183	B	C	8D
R7184	A	D	8D
R7185	B	C	8C
R7186	B	C	8C
R7187	B	C	8C
R7188	B	C	8C
R7189	B	C	7C
R7190	B	C	7C
R7191	B	C	6C
R7192	B	C	12A
R7193	B	C	12A
R7194	B	C	6C
R7195	B	C	6B
R7196	B	C	6B
R7197	A	D	5D
R7198	B	C	4D
R7199	B	C	4D
R7200	B	C	4C
R7201	B	C	4C
R7202	B	C	3C
R7203	B	C	3C
R7204	B	C	3A
R7205	B	C	4A
R7206	B	C	1A
R7207	B	C	1D
R7208	B	C	11D
R7209	B	C	7B
R7210	B	C	12C
R7211	B	C	12D
R7212	B	C	2E
R7213	B	C	1E
R7214	B	C	10D
R7215	B	C	14C
R7216	B	C	14A
VR7101	A	D	14E
OTHER			
PC0109	B	C	6D
PC0140	B	C	6C
PC0203	B	C	12A
PC0929	A	D	8D
S7101	A	D	9C
TP7101	A	D	13E
TPGND	A	D	11E

WAVEFORMS

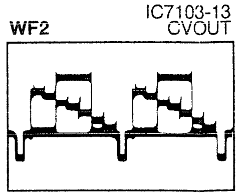
— TERMINAL —

WF1



REC/PB 2.7 Vp-p
50 mV/20 µsec/DIV

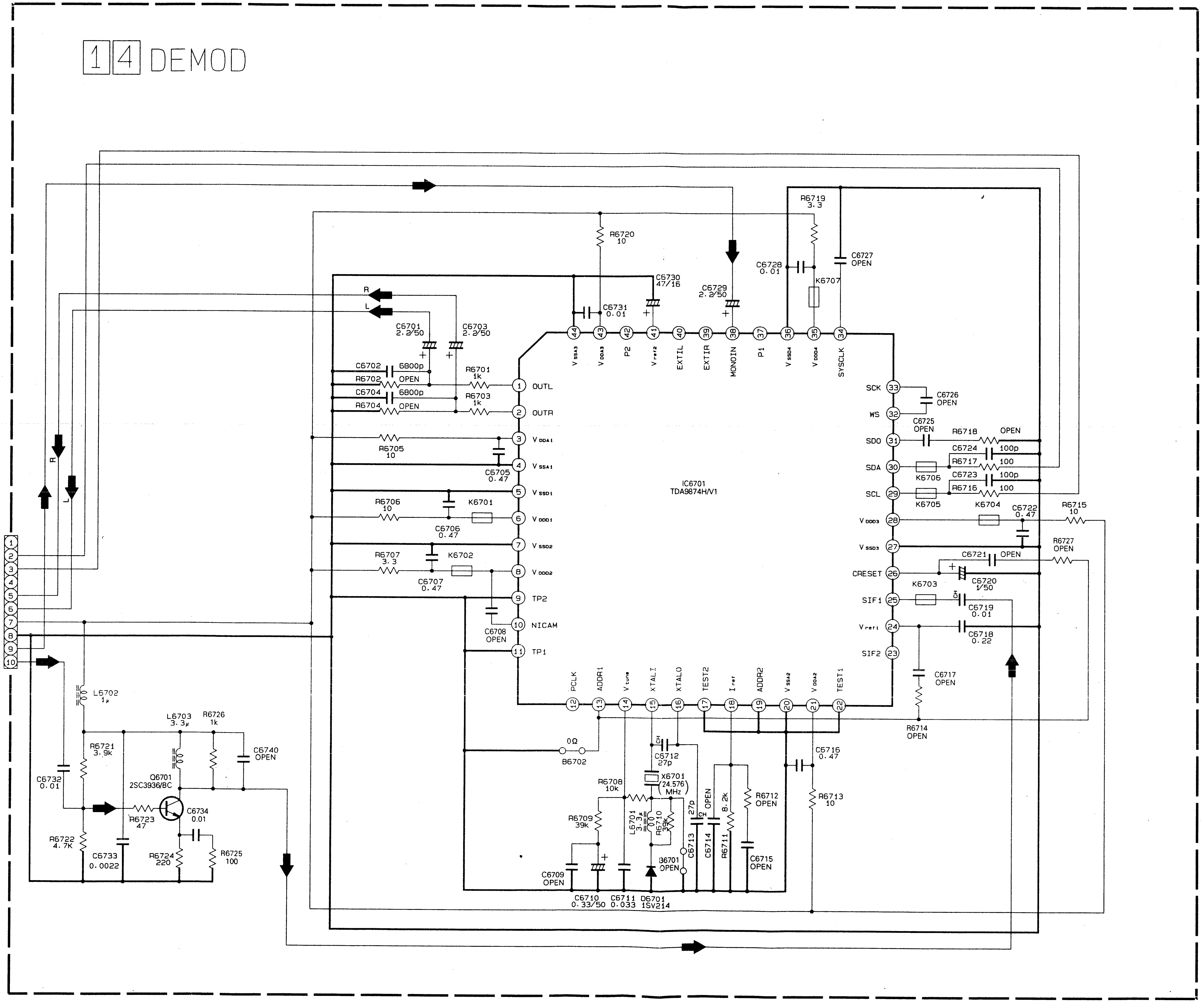
WF2



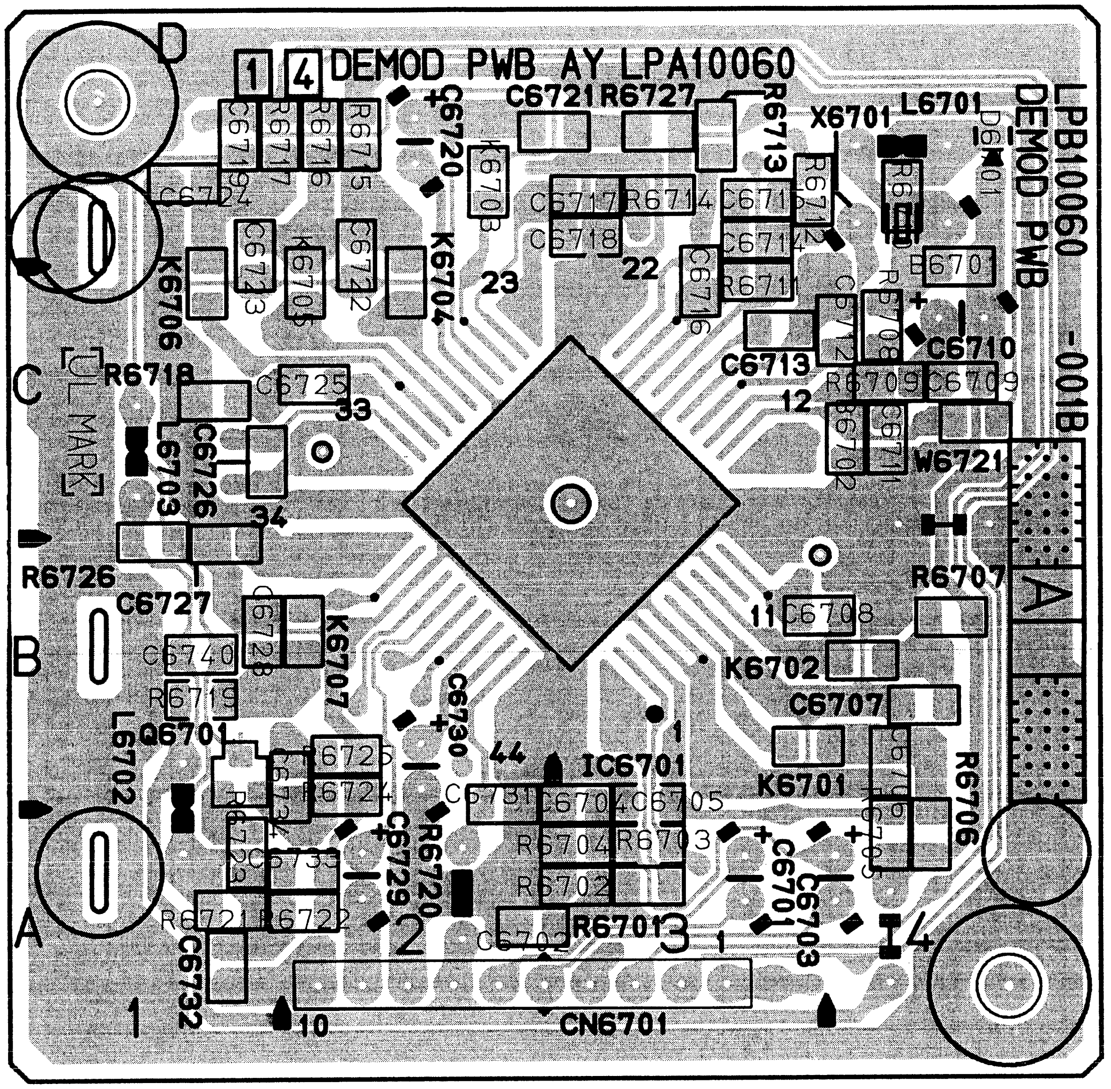
REC/PB 2.7 Vp-p
50 mV/20 µsec/DIV

4.16 DEMODULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


14 DEMOD
TO MAIN(TUNER)
CN6701
(Page 4-18)
CN6701
NC 1
I2C_DATA 2
I2C_CLK 3
TU_A_MUTE 4
DEMOD_[R] 5
DEMOD_[L] 6
SW5V 7
GND 8
COMP 9
SIF 10
IC6701
TDA9874H/V1
OUTL 1
OUTR 2
VDDA1 3
VSSA1 4
VSSD1 5
VDDD1 6
VSSD2 7
VDDD2 8
TP2 9
NICAM 10
TP1 11
PCLK 12
ADDR1 13
Vtune 14
XTALI 15
XTALO 16
TEST2 17
Iref 18
ADDR2 19
VSSA2 20
VDDA2 21
TEST1 22
SIF2 23
Vref1 24
SIF1 25
CRESET 26
VSSD3 27
VDDD3 28
SCL 29
SDA 30
SDO 31
WS 32
SCK 33
SYSCLK 34
VDDA 35
VSSA 36
P1 37
MONOIN 38
EXTIR 39
EXTIL 40
Vref2 41
P2 42
VDDA3 43
VSSA3 44
R
L
C6701 2.2/50
C6703 2.2/50
C6702 6800p
R6702 OPEN
C6704 6800p
R6704 OPEN
R6701 1k
R6703 1k
R6705 10
C6705 0.47
R6706 10
K6701
C6706 0.47
R6707 3.3
K6702
C6707 0.47
C6708 OPEN
R6720 10
C6730 47/16
C6731 0.01
C6729 2.2/50
C6728 0.01
R6719 3.3
K6707
C6727 OPEN
C6726 OPEN
C6725 OPEN
R6718 OPEN
C6724 100p
R6717 100
K6706
C6723 100p
R6716 100
K6705
K6704
C6722 0.47
R6715 10
R6727 OPEN
C6721 OPEN
C6720 1/50
K6703
C6719 0.01
C6718 0.22
C6717 OPEN
R6714 OPEN
C6716 0.47
R6713 10
R6712 OPEN
C6715 OPEN
R6711 8.2k
C6714 OPEN
C6713 27p
C6712 27p
X6701 (24.576 MHz)
R6708 10k
R6709 39K
L6701 3.3μ
R6710 39K
B6701 OPEN
C6709 OPEN
C6710 0.33/50
C6711 0.033
D6701 1SV214
0Ω
B6702
L6702 1μ
L6703 3.3μ
R6726 1k
C6740 OPEN
R6721 3.9k
Q6701 2SC3936/BC
C6732 0.01
R6723 47
C6734 0.01
R6722 4.7K
C6733 0.0022
R6724 220
R6725 100

4.17 DEMODULATOR CIRCUIT BOARD

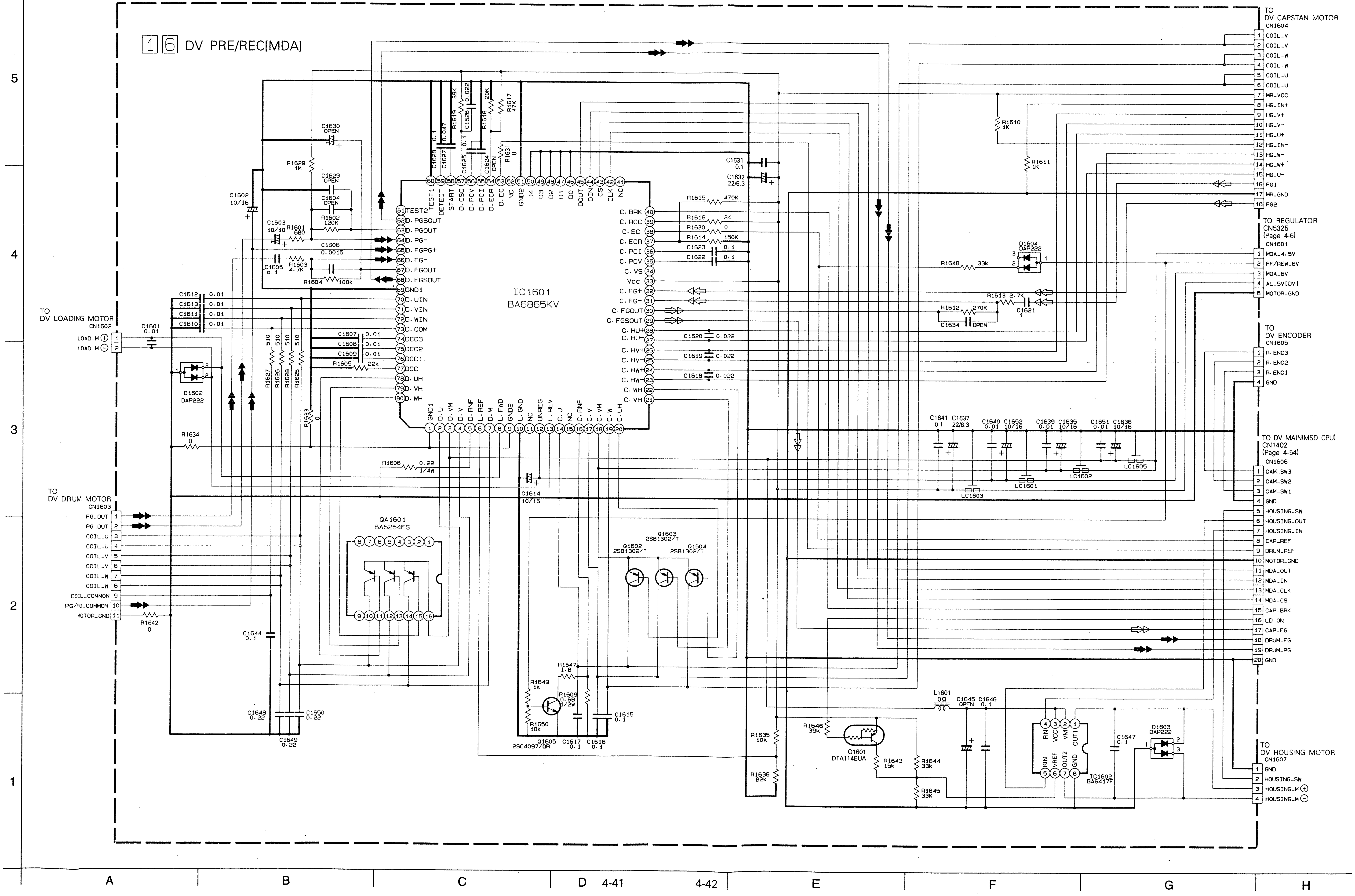

DEMOD PWB AY LPA10060
LPB10060 DEMOD PWB -001B
1
4
A
B
C
D
C6701
C6702
C6703
C6704
C6705
C6707
C6708
C6709
C6710
C6711
C6712
C6713
C6714
C6715
C6716
C6717
C6718
C6719
C6720
C6721
C6722
C6723
C6724
C6725
C6726
C6727
C6728
C6729
C6730
C6731
C6732
C6733
C6740
R6701
R6702
R6703
R6704
R6705
R6706
R6707
R6708
R6709
R6711
R6712
R6713
R6714
R6715
R6716
R6717
R6718
R6719
R6720
R6721
R6722
R6724
R6725
R6726
R6727
K6701
K6702
K6703
K6704
K6706
K6707
X6701
L6701
L6702
L6703
D6701
Q6701
IC6701
W6721
CN6701
UL MARK
1
10
11
12
22
23
33
34
44
1
2
3
4

COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C6701	A	D	3A
C6702	B	C	2A
C6703	A	D	4A
C6704	B	C	3B
C6705	B	C	3B
C6706	B	C	4B
C6707	B	C	4B
C6708	B	C	3B
C6709	B	C	4C
C6710	A	D	4C
C6711	B	C	4C
C6712	B	C	4C
C6713	B	C	3C
C6714	B	C	3D
C6715	B	C	3D
C6716	B	C	3C
C6717	B	C	3D
C6718	B	C	3D
C6719	B	C	1D
C6720	A	D	2D
C6721	B	C	3D
C6722	B	C	2D
C6723	B	C	1D
C6724	B	C	1D
C6725	B	C	2C
C6726	B	C	1C
C6727	B	C	1B
C6728	B	C	1B
C6729	A	D	2A
C6730	A	D	2B
C6731	B	C	2B
C6732	B	C	1A
C6733	B	C	2A
C6734	B	C	2B
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	B	C	4D
IC			
IC6701	B	C	3C
COIL			
L6701	A	D	4D
L6702	A	D	1A
L6703	A	D	1C
TRANSISTOR			
Q6701	B	C	1B
RESISTOR			
R6701	B	C	3A
R6702	B	C	3A
R6703	B	C	3A
R6704	B	C	3A
R6705	B	C	4A
R6706	B	C	4A
R6707	B	C	4B
R6708	B	C	4C
R6709	B	C	4C
R6710	B	C	4D
R6711	B	C	3C
R6712	B	C	3D
R6713	B	C	3D
R6714	B	C	3D
R6715	B	C	2D
R6716	B	C	2D
R6717	B	C	2D
R6718	B	C	1C
R6719	B	C	1B
R6720	A	D	2A
R6721	B	C	1A
R6722	B	C	2A
R6723	B	C	1A
R6724	B	C	2B
R6725	B	C	2B
R6726	B	C	1B
R6727	B	C	3D
OTHER			
K6701	B	C	3B
K6702	B	C	4B
K6703	B	C	2D
K6704	B	C	2C
K6705	B	C	2C
K6706	B	C	1C
K6707	B	C	2B
X6701	A	D	4D

4.18 MDA SCHEMATIC DIAGRAM

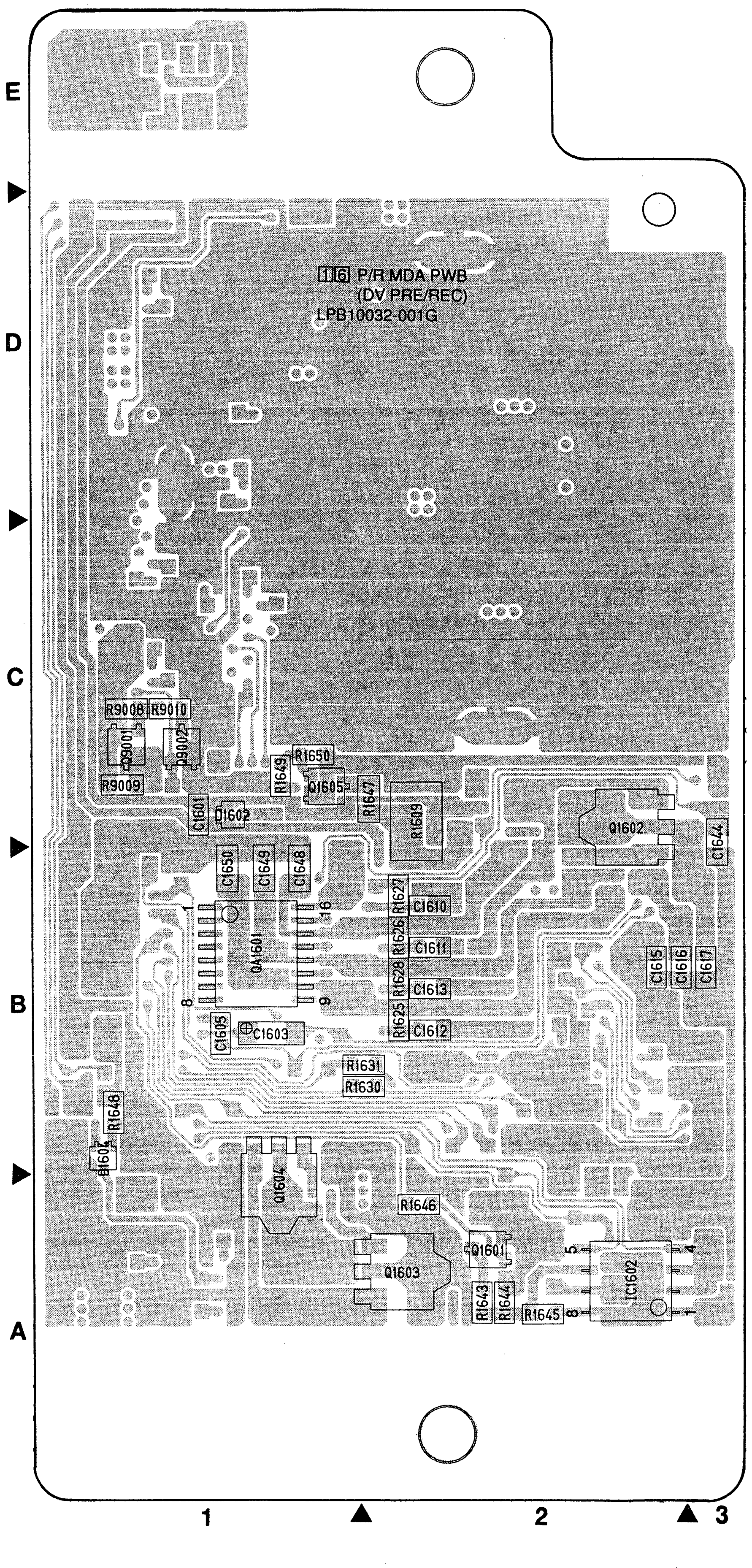
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



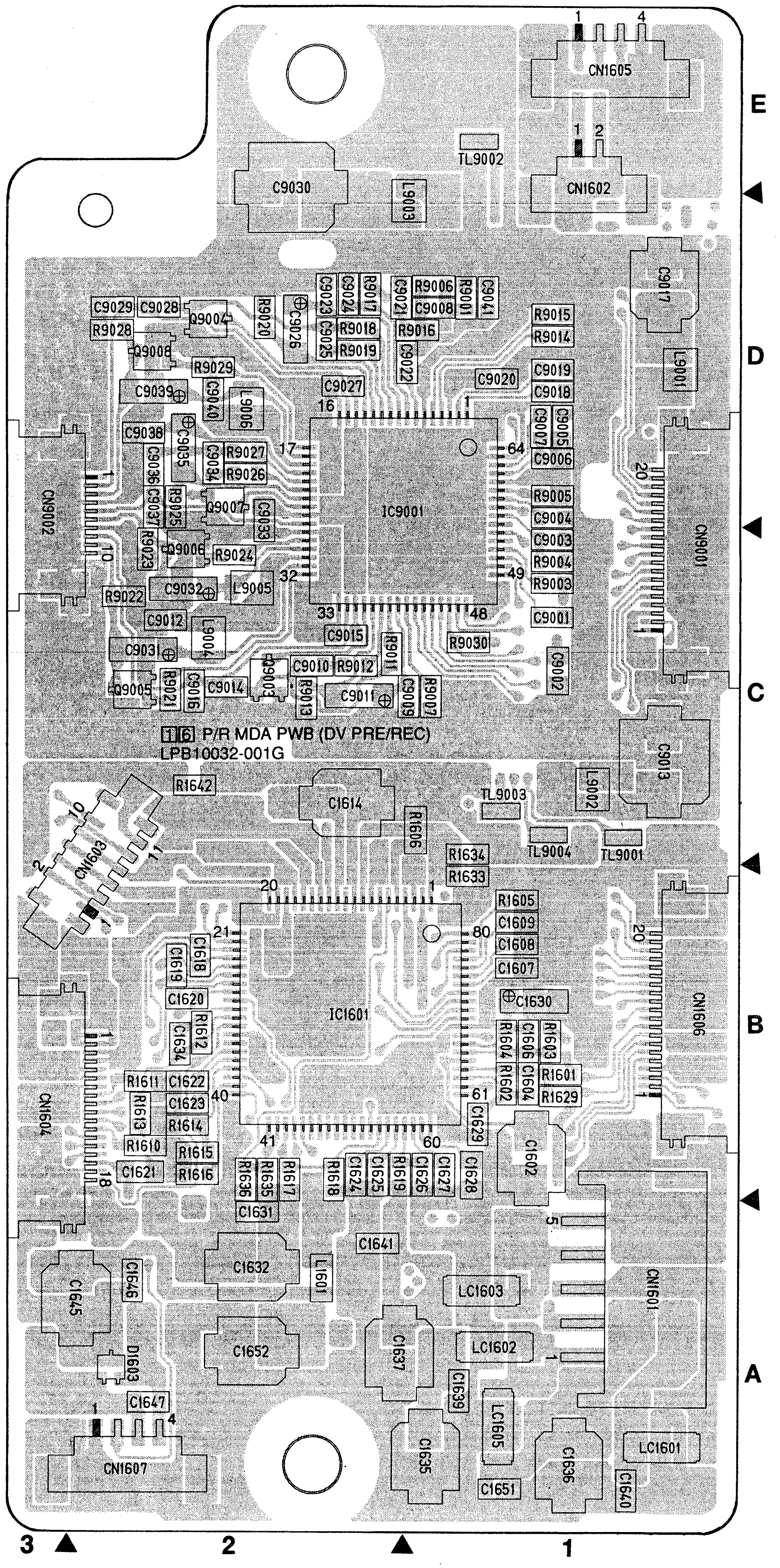
16 DV PRE/REC[MDA]
IC1601
BA6865KV
61 TEST2
62 D.PGSOUT
63 D.PGOUT
64 D.PG-
65 D.FGPG+
66 D.FG-
67 D.FGOUT
68 D.FGSOUT
69 GND1
70 D.UIN
71 D.VIN
72 D.WIN
73 D.COM
74 DCC3
75 DCC2
76 DCC1
77 DCC
78 D.UH
79 D.VH
80 D.WH
60 TEST1
59 DETECT
58 START
57 D.OSC
56 D.PCV
55 D.PCI
54 D.ECR
53 D.EC
52 NC
51 GND2
50 D4
49 D3
48 D2
47 D1
46 DO
45 DOUT
44 DIN
43 CS
42 CLK
41 NC
40 C.BRK
39 C.RCC
38 C.EC
37 C.ECR
36 C.PCI
35 C.PCV
34 C.VS
33 Vcc
32 C.FG+
31 C.FG-
30 C.FGOUT
29 C.FGSOUT
28 C.HU+
27 C.HU-
26 C.HV+
25 C.HV-
24 C.HW+
23 C.HW-
22 C.WH
21 C.VH
1 GND1
2 D.U
3 D.VM
4 D.V
5 D.RNF
6 D.W
7 L.FWD
8 L.REF
9 GND2
10 L.GND
11 NC
12 UNREG
13 L.REV
14 C.U
15 NC
16 C.RNF
17 C.V
18 C.VM
19 C.W
20 C.UH
C1628 0.1
C1627 0.047
R1619 39K
C1626 0.022
C1625 0.1
C1624 OPEN
R1618 20K
R1617 47K
R1631 0
C1630 OPEN
R1629 1M
C1629 OPEN
C1604 OPEN
R1602 120K
C1602 10/16
C1603 10/10
R1601 680
C1606 0.0015
C1605 0.1
R1603 4.7K
R1604 100K
C1612 0.01
C1613 0.01
C1611 0.01
C1610 0.01
C1601 0.01
C1607 0.01
C1608 0.01
C1609 0.01
R1605 22k
R1627 510
R1626 510
R1628 510
R1625 510
R1633 0
D1602 DAP222
R1634 0
R1606 0.22 1/4W
C1614 10/16
C1631 0.1
C1632 22/6.3
R1615 470K
R1616 2K
R1630 0
R1614 150K
C1623 0.1
C1622 0.1
C1620 0.022
C1619 0.022
C1618 0.022
TO DV LOADING MOTOR
CN1602
1 LOAD_M +
2 LOAD_M -
TO DV DRUM MOTOR
CN1603
1 FG_OUT
2 PG_OUT
3 COIL_U
4 COIL_U
5 COIL_V
6 COIL_V
7 COIL_W
8 COIL_W
9 COIL_COMMON
10 PG/FG_COMMON
11 MOTOR_GND
R1642 0
QA1601
BA6254FS
C1644 0.1
C1648 0.22
C1649 0.22
C1650 0.22
R1647 1.8
R1649 1k
R1609 0.68 1/2W
R1650 10k
Q1605 2SC4097/QR
C1617 0.1
C1616 0.1
C1615 0.1
Q1602 2SB1302/T
Q1603 2SB1302/T
Q1604 2SB1302/T
TO DV CAPSTAN MOTOR
CN1604
1 COIL_V
2 COIL_V
3 COIL_W
4 COIL_W
5 COIL_U
6 COIL_U
7 MR_VCC
8 HG_IN+
9 HG_V+
10 HG_V-
11 HG_U+
12 HG_IN-
13 HG_W-
14 HG_W+
15 HG_U-
16 FG1
17 MR_GND
18 FG2
R1610 1K
R1611 1K
TO REGULATOR
CN5325
(Page 4-6)
CN1601
1 MDA_4.5V
2 FF/REW_6V
3 MDA_6V
4 AL_5V[DV]
5 MOTOR_GND
D1604 DAP222
R1648 33k
R1613 2.7K
R1612 270K
C1621 1
C1634 OPEN
TO DV ENCODER
CN1605
1 R.ENC3
2 R.ENC2
3 R.ENC1
4 GND
C1641 0.1
C1637 22/6.3
C1640 0.01
C1652 10/16
C1639 0.01
C1635 10/16
C1651 0.01
C1636 10/16
LC1603
LC1601
LC1602
LC1605
TO DV MAIN(MSD CPU)
CN1402
(Page 4-54)
CN1606
1 CAM_SW3
2 CAM_SW2
3 CAM_SW1
4 GND
5 HOUSING_SW
6 HOUSING_OUT
7 HOUSING_IN
8 CAP_REF
9 DRUM_REF
10 MOTOR_GND
11 MDA_OUT
12 MDA_IN
13 MDA_CLK
14 MDA_CS
15 CAP_BRK
16 LD_ON
17 CAP_FG
18 DRUM_FG
19 DRUM_PG
20 GND
L1601 0Ω
C1645 OPEN
C1646 0.1
R1646 39k
Q1601 DTA114EUA
R1643 15k
R1644 33k
R1645 33k
R1635 10k
R1636 82k
IC1602 BA6417F
1 OUT1
2 VM
3 VCC
4 FIN
5 RIN
6 VREF
7 OUT2
8 GND
C1647 0.1
D1603 DAP222
TO DV HOUSING MOTOR
CN1607
1 GND
2 HOUSING_SW
3 HOUSING_M +
4 HOUSING_M -
5
4
3
2
1
A
B
C
D
E
F
G
H

4.19 MDA CIRCUIT BOARD

— FOIL SIDE (B) —


E
D
C
B
A
1
2
3
16 P/R MDA PWB
(DV PRE/REC)
LPB10032-001G
R9008
R9010
Q9001
Q9002
R9009
R1650
R1649
Q1605
R1647
R1609
C1601
D1602
Q1602
C1644
C1650
C1649
C1648
QA1601
R1627
R1626
R1628
R1625
C1610
C1611
C1613
C1612
C1605
C1603
C1615
C1616
C1617
R1631
R1630
R1648
Q1604
R1646
Q1603
Q1601
R1643
R1644
R1645
IC1602

— COMPONENT SIDE (A) —

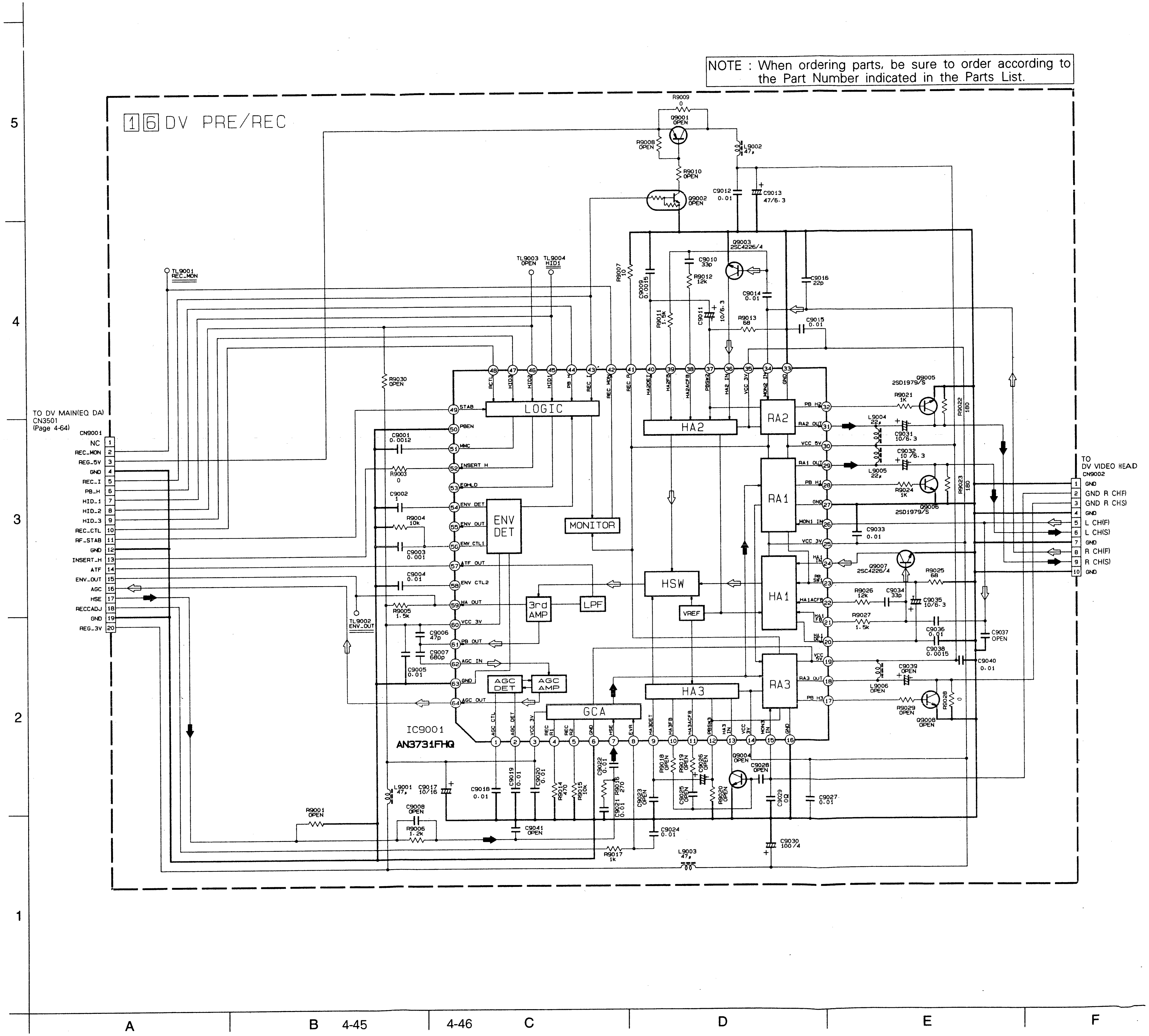

16 P/R MDA PWB (DV PRE/REC)
LPB10032-001G

E
D
C
B
A
3
2
1
CN1605
CN1602
TL9002
C9030
L9003
C9017
L9001
CN9001
CN9002
IC9001
C9013
L9002
TL9003
TL9004
TL9001
R1642
C1614
R1606
R1634
R1633
CN1603
IC1601
CN1606
CN1604
CN1601
C1602
C1632
L1601
C1641
LC1603
C1645
C1646
C1652
C1637
LC1602
C1639
D1603
C1647
CN1607
C1635
LC1605
C1636
LC1601
C1651
C1640
C9029
C9028
R9028
Q9004
Q9008
R9020
C9026
C9023
C9024
C9025
R9017
R9018
R9019
C9021
R9006
C9008
R9016
C9022
R9001
C9041
R9015
R9014
R9029
C9039
C9040
L9006
C9027
C9020
C9019
C9018
C9005
C9007
C9006
C9038
C9035
C9036
C9034
R9027
R9026
C9037
R9025
Q9007
C9033
R9023
Q9006
R9024
R9005
C9004
C9003
R9004
R9003
C9032
L9005
R9022
C9012
L9004
C9001
C9031
C9015
R9011
R9030
C9010
R9012
C9002
Q9005
R9021
C9016
C9014
Q9003
R9013
C9011
C9009
R9007
R1605
C1609
C1608
C1607
C1618
C1619
C1620
C1630
R1612
C1634
R1604
C1606
C1604
R1603
R1602
R1601
R1629
R1611
C1622
R1613
C1623
R1614
C1629
R1610
R1615
R1616
C1621
R1636
R1635
R1617
R1618
C1624
C1625
R1619
C1626
C1627
C1628
C1631

4.20 DV PRE/REC SCHEMATIC DIAGRAM

COMPONENT PARTS LOCATION GUIDE <DV PRE/REC>

REF.NO.	LOCATION		
CAPACITOR			
C1601	B	C	1C
C1602	A	C	1B
C1603	B	C	1B
C1604	A	C	1B
C1605	B	C	1B
C1606	A	C	1B
C1607	A	C	1B
C1608	A	C	1B
C1609	A	C	1B
C1610	B	C	2B
C1611	B	C	2B
C1612	B	C	2B
C1613	B	C	2B
C1614	A	C	2C
C1615	B	C	2B
C1616	B	C	2B
C1617	B	C	3B
C1618	A	C	2B
C1619	A	C	2B
C1620	A	C	2B
C1621	A	C	2B
C1622	A	C	2B
C1623	A	C	2B
C1624	A	C	2B
C1625	A	C	2B
C1626	A	C	1B
C1627	A	C	1B
C1628	A	C	1B
C1629	A	C	1B
C1630	A	C	1B
C1631	A	C	2A
C1632	A	C	2A
C1634	A	C	2B
C1635	A	C	1A
C1636	A	C	1A
C1637	A	C	1A
C1639	A	C	1A
C1640	A	C	1A
C1641	A	C	2A
C1644	B	C	3C
C1645	A	C	2A
C1646	A	C	2A
C1647	A	C	2A
C1648	B	C	1B
C1649	B	C	1B
C1650	B	C	1B
C1651	A	C	1A
C1652	A	C	2A
C9001	A	C	1C
C9002	A	C	1C
C9003	A	C	1C
C9004	A	C	1C
C9005	A	C	1D
C9006	A	C	1D
C9007	A	C	1D
C9008	A	C	1D
C9009	A	C	1C
C9010	A	C	2C
C9011	A	C	2C
C9012	A	C	2C
C9013	A	C	1C
C9014	A	C	2C
C9015	A	C	2C
C9016	A	C	2C
C9017	A	C	1D
C9018	A	C	1D
C9019	A	C	1D
C9020	A	C	1D
C9021	A	C	2D
C9022	A	C	1D
C9023	A	C	2D
C9024	A	C	2D
C9025	A	C	2D
C9026	A	C	2D
C9027	A	C	2D
C9028	A	C	2D
C9029	A	C	2D
C9030	A	C	2D
C9031	A	C	2C
C9032	A	C	2C
C9033	A	C	2C
C9034	A	C	2D
C9035	A	C	2D
C9036	A	C	2D
C9037	A	C	2D
C9038	A	C	2D
C9039	A	C	2D
C9040	A	C	2D
C9041	A	C	1D
CONNECTOR			
CN1	A	C	2G
CN2	A	C	2E
CN3	B	C	1E
CN1601	A	C	1A
CN1602	A	C	1E
CN1603	A	C	2B
CN1604	A	C	2B
CN1605	A	C	1E
CN1606	A	C	1B
CN1607	A	C	2A
CN9001	A	C	1C
CN9002	A	C	2D
DIODE			
D1602	B	C	1C
D1603	A	C	2A
D1604	B	C	1B
IC			
IC1601	A	C	2B
IC1602	B	C	2A
IC9001	A	C	1D
JACK			
J8001	A	D	1G
COIL			
L1601	A	C	2A
L9001	A	C	1D
L9002	A	C	1C
L9003	A	C	1D
L9004	A	C	2C
L9005	A	C	2C
L9006	A	C	2D
TRANSISTOR			
Q1601	B	C	2A
Q1602	B	C	2C
Q1603	B	C	2A
Q1604	B	C	1A
Q1605	B	C	1C
Q9001	B	C	1C
Q9002	B	C	1C
Q9003	A	C	2C
Q9004	A	C	2D
Q9005	A	C	2C
Q9006	A	C	2C
Q9007	A	C	2D
Q9008	A	C	2D
QA1601	B	C	1B
RESISTOR			
R1601	A	C	1B
R1602	A	C	1B
R1603	A	C	1B
R1604	A	C	1B
R1605	A	C	1B
R1606	A	C	1C
R1609	B	C	2C
R1610	A	C	2B
R1611	A	C	2B
R1612	A	C	2B
R1613	A	C	2B
R1614	A	C	2B
R1615	A	C	2B
R1616	A	C	2B
R1617	A	C	2B
R1618	A	C	2B
R1619	A	C	2B
R1625	B	C	2B
R1626	B	C	2B
R1627	B	C	2B
R1628	B	C	2B
R1629	A	C	1B
R1630	B	C	2B
R1631	B	C	2B
R1633	A	C	1B
R1634	A	C	1C
R1635	A	C	2B
R1636	A	C	2B
R1642	A	C	2C
R1643	B	C	2A
R1644	B	C	2A
R1645	B	C	2A
R1646	B	C	2A
R1647	B	C	2C
R1648	B	C	1B
R1649	B	C	1C
R1650	B	C	1C
R9001	A	C	1D
R9003	A	C	1C
R9004	A	C	1C
R9005	A	C	1D
R9006	A	C	1D
R9007	A	C	1C
R9008	B	C	1C
R9009	B	C	1C
R9010	B	C	1C
R9011	A	C	2C
R9012	A	C	2C
R9013	A	C	2C
R9014	A	C	1D
R9015	A	C	1D
R9016	A	C	1D
R9017	A	C	2D
R9018	A	C	2D
R9019	A	C	2D
R9020	A	C	2D
R9021	A	C	2C
R9022	A	C	2C
R9023	A	C	2C
R9024	A	C	2C
R9025	A	C	2D
R9026	A	C	2D
R9027	A	C	2D
R9028	A	C	2D
R9029	A	C	2D
R9030	A	C	1C
TEST POINT			
TP1	A	C	2F
TP2	A	C	2F
TP3	A	C	2F
TP4	A	C	2F
TP5	A	C	2F
TP6	A	C	2F
TP7	A	C	2F
TP8	A	C	2F
TP9	A	C	2F
TP10	A	C	2F
TP11	A	C	2F
TP12	A	C	1F
TP13	A	C	1F
TP14	B	C	2F
TP15	B	C	2F
TP16	B	C	2F
TP17	B	C	2F
TP18	B	C	2F
TP19	B	C	2F
TP20	B	C	2F
TP21	B	C	2F
TP22	B	C	2F
TP23	B	C	2F
TP24	B	C	2F
TP25	B	C	1F
TP26	B	C	1F
OTHER			
LC1601	A	C	1A
LC1602	A	C	1A
LC1603	A	C	1A
LC1605	A	C	1A
TL9001	A	C	1C
TL9002	A	C	1E
TL9003	A	C	1C
TL9004	A	C	1C

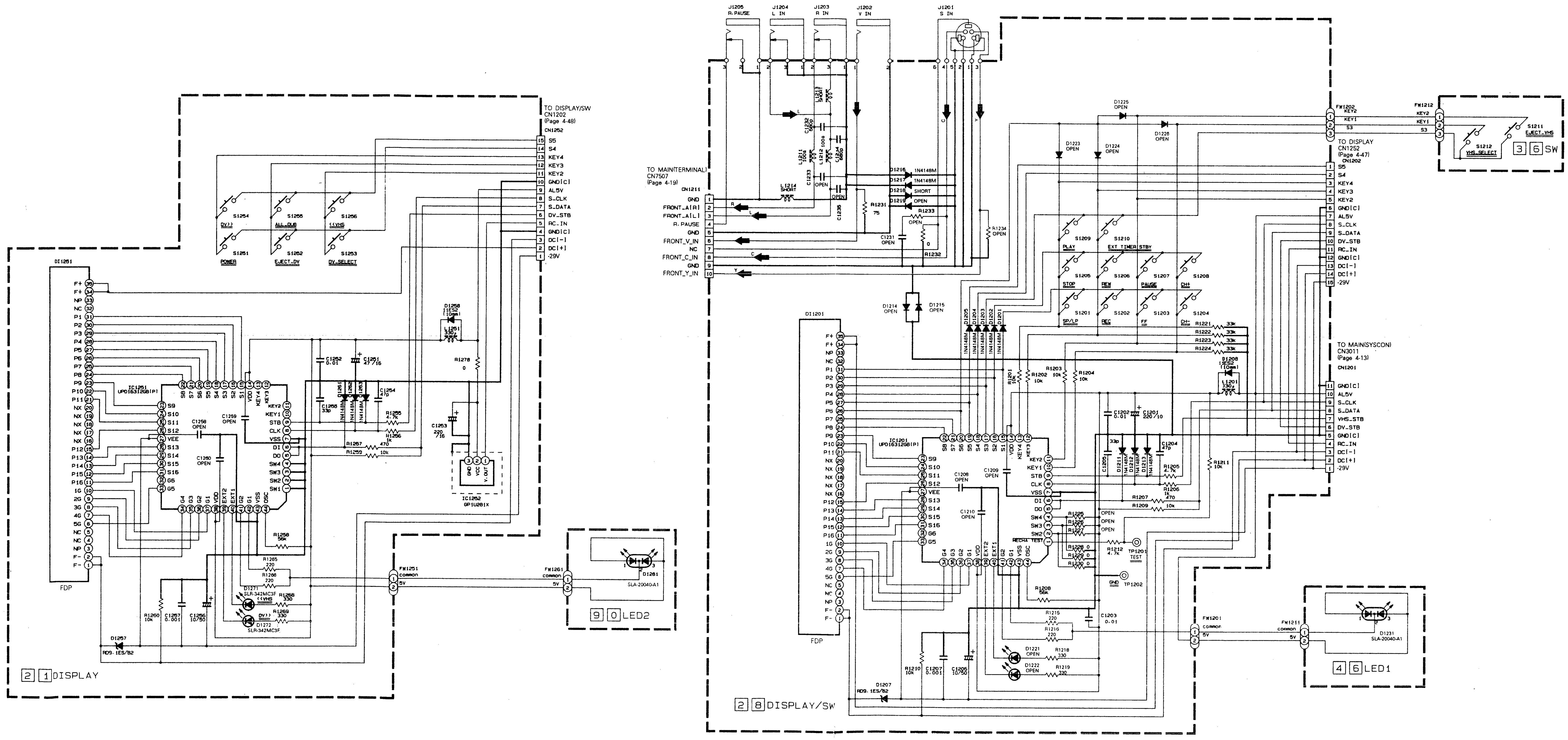


NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

5
4
3
2
1
A
B
C
D
E
F
16 DV PRE/REC
TO DV MAIN(EQ DA)
CN3501
(Page 4-64)
CN9001
NC 1
REC_MON 2
REG_5V 3
GND 4
REC_I 5
PB_H 6
HID_1 7
HID_2 8
HID_3 9
REC_CTL 10
RF_STAB 11
GND 12
INSERT_H 13
ATF 14
ENV_OUT 15
AGC 16
HSE 17
RECCADJ 18
GND 19
REG_3V 20
TL9001
REC_MON
TL9002
ENV_OUT
TL9003
OPEN
TL9004
HID1
R9030
OPEN
C9001
0.0012
R9003
0
C9002
1
R9004
10k
C9003
0.001
C9004
0.01
R9005
1.5k
C9006
47p
C9007
680p
C9005
0.01
STAB
PBEN
MMC
INSERT H
EQHLD
ENV DET
ENV OUT
ENV CTL1
ATF OUT
ENV CTL2
HA OUT
VCC 3V
PB OUT
AGC IN
GND
AGC OUT
RCTL
HID3
HID2
HID1
PB H
REC I
REC MON
REC R
HA2DEI
HA2FB
HA2ACFB
PBSW2
HA2 IN
VCC 3V
MON2 IN
GND
LOGIC
ENV
DET
MONITOR
3rd
AMP
LPF
AGC
DET
AGC
AMP
GCA
HA2
HSW
VREF
HA3
RA2
RA1
HA1
RA3
PB H2
RA2 OUT
VCC 5V
RA1 OUT
PB H1
GND
MON1 IN
VCC 3V
HA1 IN
PB SW1
HA1ACFB
HA1 FB
HA1 DET
VCC 5V
RA3 OUT
PB H3
AGC CTL
AGC DET
VCC 3V
REC R1
REC R2
GND
HSE
EVR
HA3DET
HA3FB
HA3ACFB
PBSW3
HA3 IN
VCC 3V
MON3 IN
GND
IC9001
AN3731FHQ
R9009
0
Q9001
OPEN
R9008
OPEN
R9010
OPEN
Q9002
OPEN
L9002
47μ
C9012
0.01
C9013
47/6.3
Q9003
2SC4226/4
R9007
10
C9009
0.0015
C9010
33p
R9012
12k
R9011
1.5k
C9011
10/6.3
C9014
0.01
C9016
22p
R9013
68
C9015
0.01
Q9005
2SD1979/S
R9021
1K
R9022
180
L9004
22μ
C9031
10/6.3
C9032
10 /6.3
L9005
22μ
R9024
1K
R9023
180
Q9006
2SD1979/S
C9033
0.01
Q9007
2SC4226/4
R9025
68
R9026
12k
C9034
33p
C9035
10/6.3
R9027
1.5k
C9036
0.01
C9038
0.0015
C9037
OPEN
C9040
0.01
L9006
OPEN
C9039
OPEN
R9029
OPEN
R9028
0
Q9008
OPEN
TO
DV VIDEO HEAD
CN9002
1 GND
2 GND R CH(F)
3 GND R CH(S)
4 GND
5 L CH(F)
6 L CH(S)
7 GND
8 R CH(F)
9 R CH(S)
10 GND
L9001
47μ
C9017
10/16
C9008
OPEN
R9006
1.2k
R9001
OPEN
C9018
0.01
C9019
0.01
C9020
0.01
C9041
OPEN
R9014
470
R9015
10k
C9022
0.01
R9016
270
C9021
0.01
R9017
1k
C9023
OPEN
C9024
0.01
R9018
OPEN
R9019
OPEN
C9026
OPEN
C9025
OPEN
R9020
OPEN
Q9004
OPEN
C9028
OPEN
C9029
0Ω
C9027
0.01
C9030
100/4
L9003
47μ

4.21 DISPLAY, DISPLAY/SW, SW, LED1 AND LED2 SCHEMATIC DIAGRAMS

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

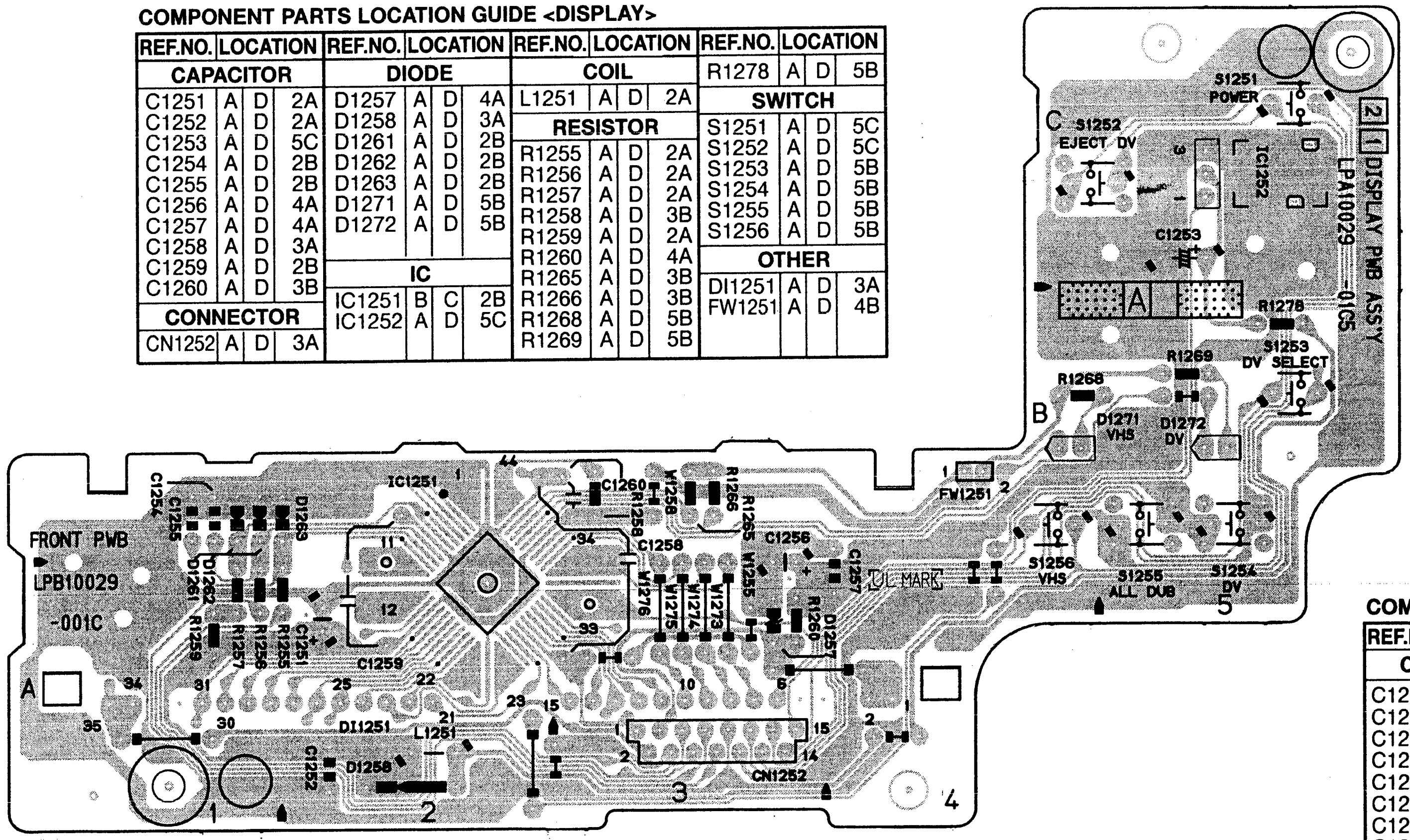

TO DISPLAY/SW
CN1202
(Page 4-48)
CN1252
15 S5
14 S4
13 KEY4
12 KEY3
11 KEY2
10 GND[C]
9 AL5V
8 S_CLK
7 S_DATA
6 DV_STB
5 RC_IN
4 GND[C]
3 DC[-]
2 DC[+]
1 -29V
S1254
DV>>
S1255
ALL_DUB
S1256
<<VHS
S1251
POWER
S1252
EJECT_DV
S1253
DV_SELECT
DI1251
FDP
IC1251
UPD16312GB(P)
IC1252
GP1U281X
GND
VCC
V.OUT
D1257
RD9.1ES/B2
R1260
10k
C1257
0.001
C1256
10/50
R1258
56k
R1265
220
R1266
220
D1271
SLR-342MC3F
<<VHS
R1268
330
DV>>
R1269
330
D1272
SLR-342MC3F
FW1251
common
5V
FW1261
common
5V
D1281
SLA-20040-A1
9 0 LED2
2 1 DISPLAY
J1205
R.PAUSE
J1204
L IN
J1203
R IN
J1202
V IN
J1201
S IN
TO MAIN(TERMINAL)
CN7507
(Page 4-19)
CN1211
GND 1
FRONT_A[R] 2
FRONT_A[L] 3
R.PAUSE 4
GND 5
FRONT_V_IN 6
NC 7
FRONT_C_IN 8
GND 9
FRONT_Y_IN 10
S1209
PLAY
S1210
EXT TIMER STBY
S1205
STOP
S1206
REW
S1207
PAUSE
S1208
CH+
S1201
SP/LP
S1202
REC
S1203
FF
S1204
CH-
R1221 33k
R1222 33k
R1223 33k
R1224 33k
D1208
1ES2
(10mm)
L1201
330μ
R1202
10k
R1203
10k
R1204
10k
C1202
0.01
C1201
220/10
DI1201
FDP
IC1201
UPD16312GB(P)
TP1201
TEST
TP1202
GND
FW1201
common
5V
FW1211
common
5V
D1231
SLA-20040-A1
4 6 LED1
2 8 DISPLAY/SW
FW1202
KEY2
KEY1
S3
FW1212
KEY2
KEY1
S3
S1211
EJECT_VHS
S1212
VHS_SELECT
3 6 SW
TO DISPLAY
CN1252
(Page 4-47)
CN1202
1 S5
2 S4
3 KEY4
4 KEY3
5 KEY2
6 GND[C]
7 AL5V
8 S_CLK
9 S_DATA
10 DV_STB
11 RC_IN
12 GND[C]
13 DC[-]
14 DC[+]
15 -29V
TO MAIN(SYSCON)
CN3011
(Page 4-13)
CN1201
11 GND[C]
10 AL5V
9 S_CLK
8 S_DATA
7 VHS_STB
6 DV_STB
5 GND[C]
4 RC_IN
3 DC[-]
2 DC[+]
1 -29V
5
4
3
2
1
A
B
C
D
E
F
G
H

4.22 DISPLAY, DISPLAY/SW, SW, LED1 AND LED2 CIRCUIT BOARDS

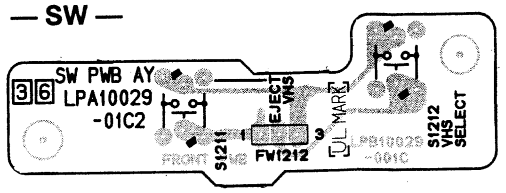
— DISPLAY —

COMPONENT PARTS LOCATION GUIDE <DISPLAY>

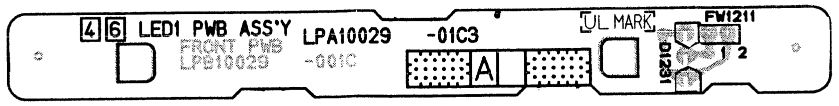
REF.NO.	LOCATION		
CAPACITOR			
C1251	A	D	2A
C1252	A	D	2A
C1253	A	D	5C
C1254	A	D	2B
C1255	A	D	2B
C1256	A	D	4A
C1257	A	D	4A
C1258	A	D	3A
C1259	A	D	2B
C1260	A	D	3B
CONNECTOR			
CN1252	A	D	3A
DIODE			
D1257	A	D	4A
D1258	A	D	3A
D1261	A	D	2B
D1262	A	D	2B
D1263	A	D	2B
D1271	A	D	5B
D1272	A	D	5B
IC			
IC1251	B	C	2B
IC1252	A	D	5C
COIL			
L1251	A	D	2A
RESISTOR			
R1255	A	D	2A
R1256	A	D	2A
R1257	A	D	2A
R1258	A	D	3B
R1259	A	D	2A
R1260	A	D	4A
R1265	A	D	3B
R1266	A	D	3B
R1268	A	D	5B
R1269	A	D	5B
R1278	A	D	5B
SWITCH			
S1251	A	D	5C
S1252	A	D	5C
S1253	A	D	5B
S1254	A	D	5B
S1255	A	D	5B
S1256	A	D	5B
OTHER			
DI1251	A	D	3A
FW1251	A	D	4B


2 1 DISPLAY PWB ASS'Y
LPA10029 -01C5
FRONT PWB
LPB10029
-001C
S1251 POWER
S1252 EJECT DV
S1253 DV SELECT
S1254 DV
S1255 ALL DUB
S1256 VHS
D1271 VHS
D1272 DV
IC1251
IC1252
CN1252
FW1251
DI1251
UL MARK
A
B
C
1
2
3
4
5

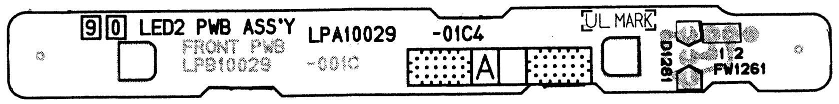
— SW —


3 6 SW PWB AY
LPA10029
-01C2
FRONT PWB
LPB10029 -001C
S1211 EJECT VHS
S1212 VHS SELECT
FW1212
UL MARK

— LED1 —


4 6 LED1 PWB ASS'Y
LPA10029 -01C3
FRONT PWB
LPB10029 -001C
UL MARK
FW1211
D1231
A

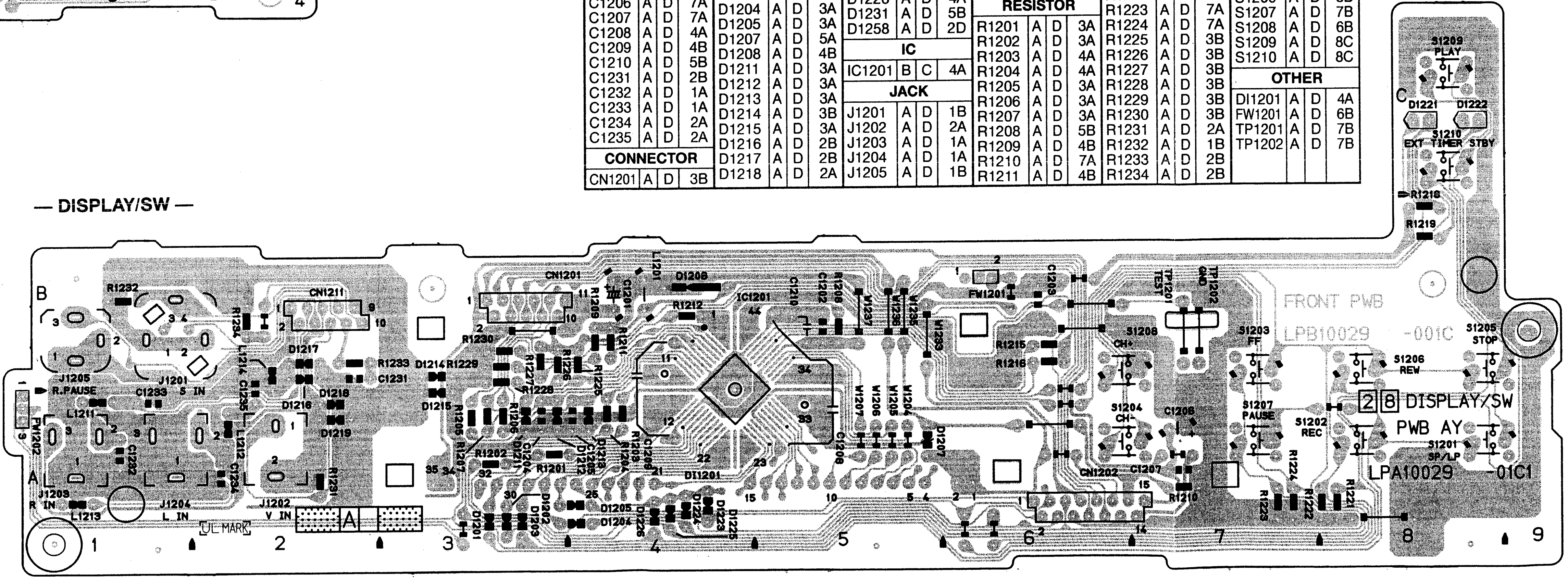
— LED2 —


9 0 LED2 PWB ASS'Y
LPA10029 -01C4
FRONT PWB
LPB10029 -001C
UL MARK
FW1261
D1261
A

COMPONENT PARTS LOCATION GUIDE <DISPLAY/SW>

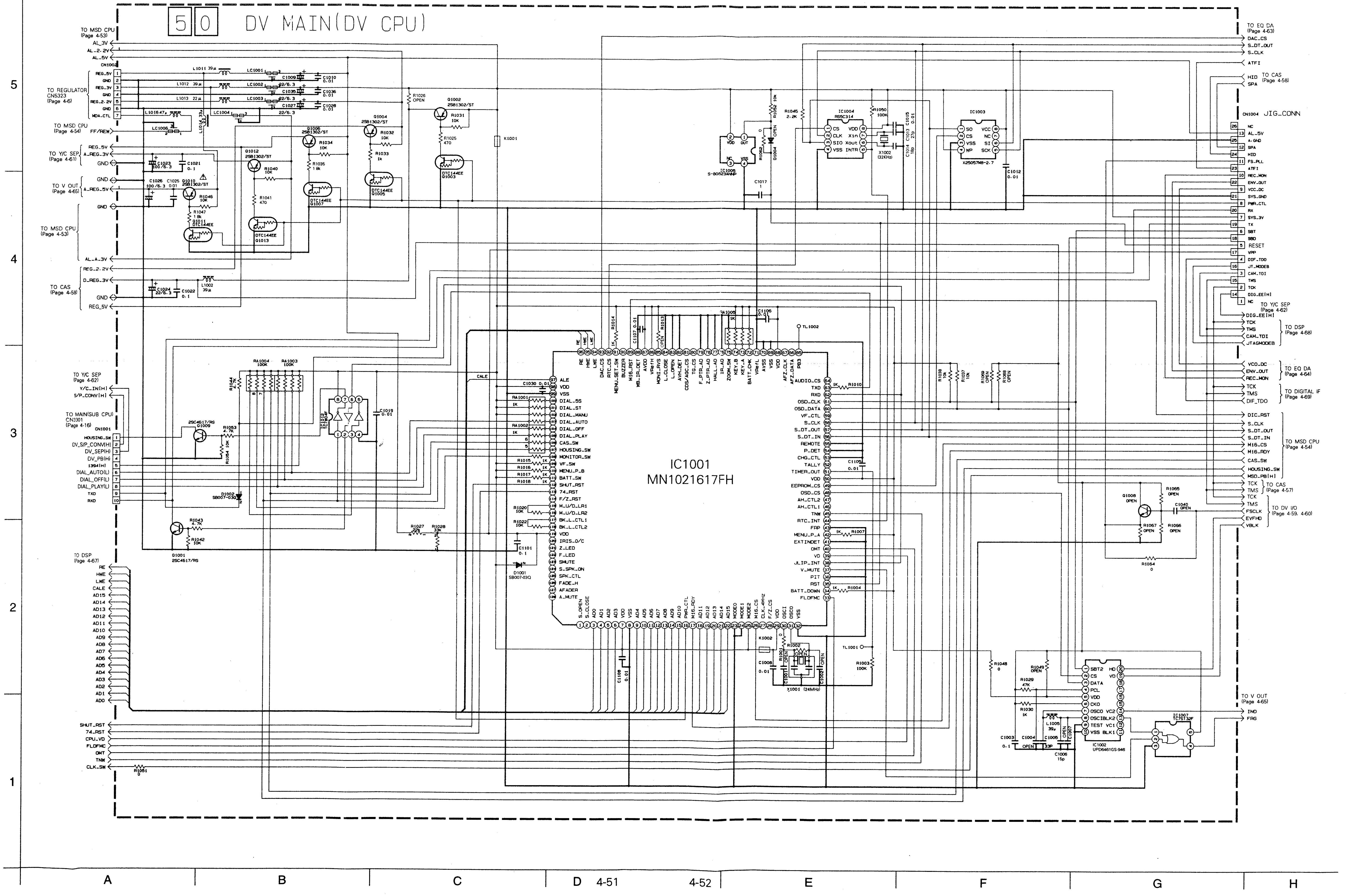
REF.NO.	LOCATION		
CAPACITOR			
C1201	A	D	4B
C1202	A	D	5B
C1203	A	D	6B
C1204	A	D	3A
C1205	A	D	3A
C1206	A	D	7A
C1207	A	D	7A
C1208	A	D	4A
C1209	A	D	4B
C1210	A	D	5B
C1231	A	D	2B
C1232	A	D	1A
C1233	A	D	1A
C1234	A	D	2A
C1235	A	D	2A
CONNECTOR			
CN1201	A	D	3B
CN1202	A	D	6A
CN1211	A	D	2B
DIODE			
D1201	A	D	3A
D1202	A	D	3A
D1203	A	D	3A
D1204	A	D	3A
D1205	A	D	3A
D1207	A	D	5A
D1208	A	D	4B
D1211	A	D	3A
D1212	A	D	3A
D1213	A	D	3A
D1214	A	D	3B
D1215	A	D	3A
D1216	A	D	2B
D1217	A	D	2B
D1218	A	D	2A
D1219	A	D	2A
D1221	A	D	8C
D1222	A	D	8C
D1223	A	D	4A
D1224	A	D	4A
D1225	A	D	4A
D1226	A	D	4A
D1231	A	D	5B
D1258	A	D	2D
IC			
IC1201	B	C	4A
JACK			
J1201	A	D	1B
J1202	A	D	2A
J1203	A	D	1A
J1204	A	D	1A
J1205	A	D	1B
COIL			
L1201	A	D	4B
L1211	A	D	1A
L1212	A	D	2A
L1213	A	D	1A
L1214	A	D	2B
RESISTOR			
R1201	A	D	3A
R1202	A	D	3A
R1203	A	D	4A
R1204	A	D	4A
R1205	A	D	3A
R1206	A	D	3A
R1207	A	D	3A
R1208	A	D	5B
R1209	A	D	4B
R1210	A	D	7A
R1211	A	D	4B
R1212	A	D	4B
R1215	A	D	6B
R1216	A	D	6B
R1218	A	D	8B
R1219	A	D	8B
R1221	A	D	7A
R1222	A	D	7A
R1223	A	D	7A
R1224	A	D	7A
R1225	A	D	3B
R1226	A	D	3B
R1227	A	D	3B
R1228	A	D	3B
R1229	A	D	3B
R1230	A	D	3B
R1231	A	D	2A
R1232	A	D	1B
R1233	A	D	2B
R1234	A	D	2B
SWITCH			
S1201	A	D	8A
S1202	A	D	8A
S1203	A	D	7A
S1204	A	D	6A
S1205	A	D	8B
S1206	A	D	8B
S1207	A	D	7B
S1208	A	D	6B
S1209	A	D	8C
S1210	A	D	8C
OTHER			
DI1201	A	D	4A
FW1201	A	D	6B
TP1201	A	D	7B
TP1202	A	D	7B

— DISPLAY/SW —


2 8 DISPLAY/SW
PWB AY
LPA10029 -01C1
FRONT PWB
LPB10029 -001C
S1201 SP/LP
S1202 REC
S1203 FF
S1204 CH-
S1205 STOP
S1206 REW
S1207 PAUSE
S1208 CH+
S1209 PLAY
S1210 EXT TIMER STBY
J1201 S IN
J1202 V IN
J1203 R IN
J1204 L IN
J1205 R.PAUSE
CN1201
CN1202
CN1211
IC1201
DI1201
FW1201
FW1202
TP1201 TEST
TP1202 GND
UL MARK
A
B
C
1
2
3
4
5
6
7
8
9

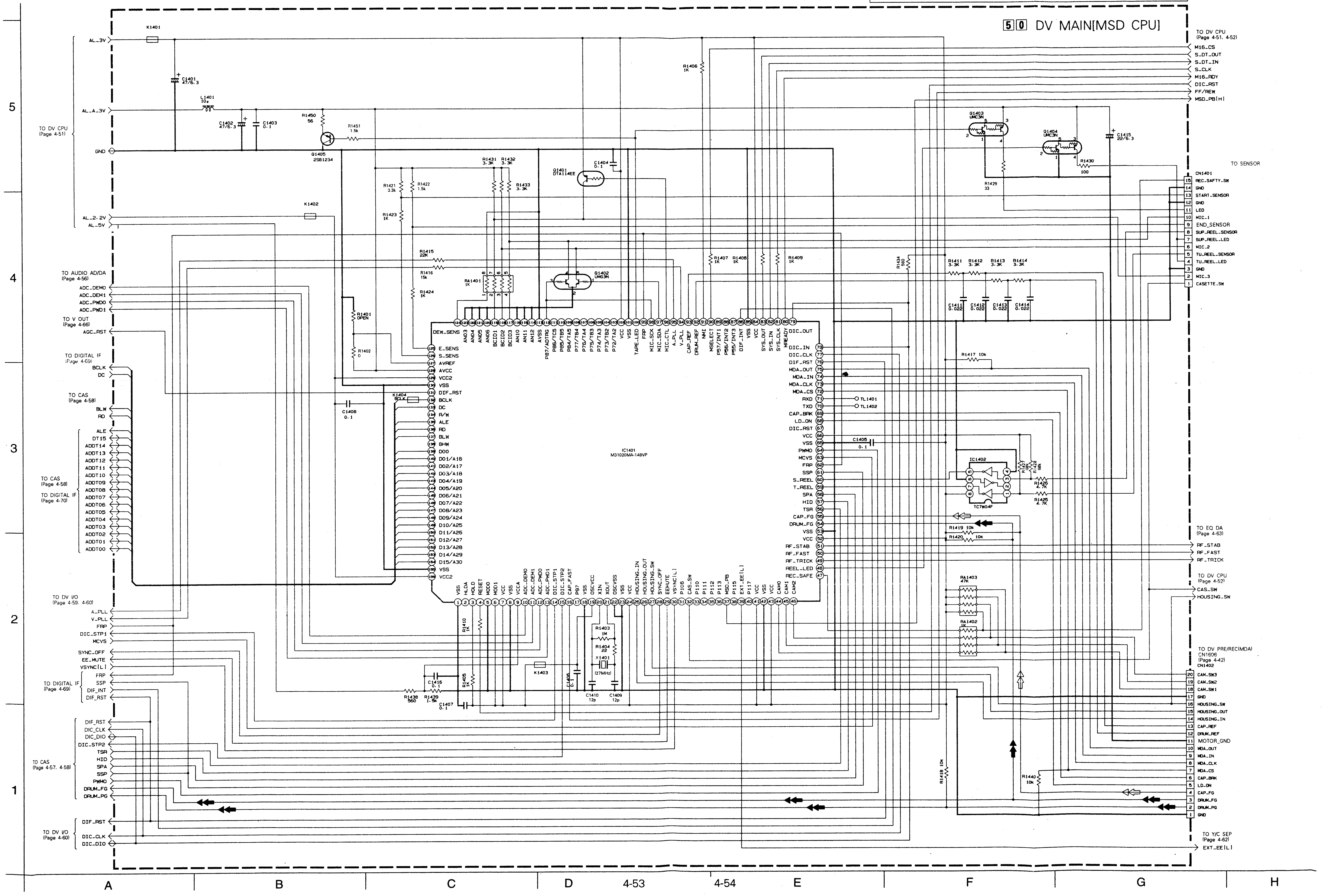
4.23 DV CPU SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DV MAIN(DV CPU)
IC1001
MN1021617FH
IC1002
UPD6461GS-946
IC1003
X25057MB-2.7
IC1004
RS5C314
IC1005
S-80823ANNP
IC1007
TC7S132F
X1001 (24MHz)
X1002 (32KHz)
CN1001
CN1002
CN1004 JIG_CONN
TO MSD CPU (Page 4-53)
AL_3V
AL_2.2V
AL_5V
TO REGULATOR CN5323 (Page 4-6)
REG_5V
GND
REG_3V
REG_2.2V
MD4_CTL
TO MSD CPU (Page 4-54)
FF/REW
TO Y/C SEP (Page 4-61)
A_REG_3V
TO V OUT (Page 4-65)
A_REG_5V
TO MSD CPU (Page 4-53)
AL_A_3V
TO CAS (Page 4-58)
REG_2.2V
D_REG_3V
TO Y/C SEP (Page 4-62)
Y/C_IN(H)
S/P_CONV(H)
TO MAIN(SUB CPU) CN3301 (Page 4-16)
HOUSING_SW
DV_S/P_CONV(H)
DV_SEP(H)
DV_PB(H)
1394(H)
DIAL_AUTO(L)
DIAL_OFF(L)
DIAL_PLAY(L)
TXD
RXD
TO DSP (Page 4-67)
RE
HWE
LWE
CALE
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
SHUT_RST
74_RST
CPU_VD
FLDFMC
OHT
TNM
CLK_SW
TO EQ DA (Page 4-63)
DAC_CS
S_DT_OUT
S_CLK
ATFI
TO CAS (Page 4-58)
HID
SPA
NC
AL_5V
A_GND
FS_PLL
REC_MON
ENV_OUT
VCC_DC
SYS_GND
PWR_CTL
RX
SYS_3V
TX
SBT
SBD
RESET
VPP
DIF_TDO
JT_MODEB
CAM_TDI
TMS
TCK
DIG_EE(H)
TO Y/C SEP (Page 4-62)
DIG_EE(H)
TO DSP (Page 4-68)
TCK
TMS
CAM_TDI
JTAGMODEB
TO EQ DA (Page 4-64)
VCO_DC
ENV_OUT
REC_MON
TO DIGITAL IF (Page 4-69)
TCK
TMS
DIF_TDO
TO MSD CPU (Page 4-54)
DIC_RST
S_CLK
S_DT_OUT
S_DT_IN
M16_CS
M16_RDY
CAS_SW
HOUSING_SW
MSD_PB(H)
TO CAS (Page 4-57)
TCK
TMS
TO DV I/O (Page 4-59, 4-60)
TCK
TMS
FSCLK
EVFHD
VBLK
TO V OUT (Page 4-65)
INO
FRG
ALE
VDD
VSS
DIAL_SS
DIAL_ST
DIAL_MANU
DIAL_AUTO
DIAL_OFF
DIAL_PLAY
CAS_SW
HOUSING_SW
MONITOR_SW
VF_SW
MENU_P_B
BATT_SW
SHUT_RST
74_RST
F/Z_RST
M_U/D_LR1
M_U/D_LR2
BK_L_CTL1
BK_L_CTL2
VDD
IRIS_O/C
Z_LED
F_LED
SMUTE
S_SPK_ON
SPK_CTL
FADE_H
AFADER
A_MUTE
AUDIO_CS
TXD
RXD
OSD_CLK
OSD_DATA
VF_CTL
S_CLK
S_DT_OUT
S_DT_IN
REMOTE
P_DET
CHG_CTL
TALLY
TIMER_OUT
VDD
EEPROM_CS
OSD_CS
AH_CTL2
AH_CTL1
TNM
RTC_INT
FRP
MENU_P_A
EXTINDET
OHT
VD
JLIP_INT
V_MUTE
PIT
RST
BATT_DOWN
FLDFMC
RE
HWE
LWE
DAC_CS
RTC_CS
MENU_SET_SW
BUZZER
M16_RST
WB_IR_DET
AVDD
VREFH
MONITOR_POS
L_CLOSE
L_OPEN
AVH_DET
CDS/AGC_CS
TG_CS
F_PTR_AD
Z_PTR_AD
HALL_AD
IR_AD
ZOOM_SW
KEY_B
KEY_A
BATT_CHK
VREFL
AVSS
VSS
VDD
AFZ_CLK
AFZ_DATA
P83
S_OPEN
S_CLOSE
AD0
AD1
AD2
AD3
VDD
VSS
AD4
AD5
AD6
AD7
AD8
AD9
AD10
PWR_CTL
M16_RDY
AD11
AD12
AD13
AD14
AD15
MODE0
MODE1
MODE2
M16_CS
CLK_4MHz
F/Z_CS
VDD
OSCI
OSCO
VSS
CS
CLK
SIO
VSS
VDD
X1n
Xout
INTR
SO
CS
VSS
WP
VCC
NC
SI
SCK
SBT2
CS
DATA
PCL
VDD
CKO
OSCO
OSCIBLK2
TEST
VSS
HD
VD
VC2
VC1
BLK1
Q1001 2SC4617/RS
Q1002 2SB1302/ST
Q1003 DTC144EE
Q1004 2SB1302/ST
Q1005 DTC144EE
Q1006 2SB1302/ST
Q1007 DTC144EE
Q1008 OPEN
Q1009 2SC4617/RS
Q1010 2SB1302/ST
Q1011 DTC144EE
Q1012 2SB1302/ST
Q1013 DTC144EE
D1001 SB007-03Q
D1002 SB007-03Q
D1004
L1011 39μ
L1012 39μ
L1013 22μ
L1014 47μ
L1015 39μ
L1002 39μ
L1005 39μ
LC1001
LC1002
LC1003
LC1004
LC1006
RA1001 1K
RA1002 1K
RA1003 100K
RA1004 100K
RA1005 1K
K1001
K1002
TL1001
TL1002
C1009 22/6.3
C1010 0.01
C1035 22/6.3
C1036 0.01
C1027 22/6.3
C1028 0.01
C1023 100/6.3
C1021 0.1
C1026 100/6.3
C1025 0.01
C1024 22/6.3
C1022 0.1
C1019 0.01
C1030 0.01
C1101 0.1
C1106 0.01
C1107 0.01
C1105 0.01
C1108 0.01
C1008 0.01
C1001 OPEN
C1002 OPEN
C1012 0.01
C1013 27p
C1014 18p
C1015 0.01
C1017 1
C1040 OPEN
C1003 0.1
C1004 OPEN
C1005 33P
C1006 15p
C1007 OPEN
R1001 OPEN
R1002
R1003 100K
R1004 1K
R1007 1K
R1010 1K
R1014 1K
R1013 OPEN
R1015 1K
R1016 1K
R1017 1K
R1018 1K
R1020 10K
R1022 10K
R1025 470
R1026 OPEN
R1027 0
R1028 33k
R1029 47K
R1030 1K
R1031 10K
R1032 10K
R1033 1k
R1034 10K
R1035 1.8k
R1036 OPEN
R1037 10K
R1038 10K
R1039 OPEN
R1040 10K
R1041 470
R1042 10K
R1043 4.7K
R1044 4.7K
R1045 2.2K
R1046 10K
R1047 1.8k
R1048 0
R1049 OPEN
R1050 100K
R1051 0
R1052 10K
R1053 4.7K
R1054 10K
R1062 OPEN
R1064 0
R1065 OPEN
R1066 OPEN
R1067 OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

4.24 MSD CPU SCHEMATIC DIAGRAM

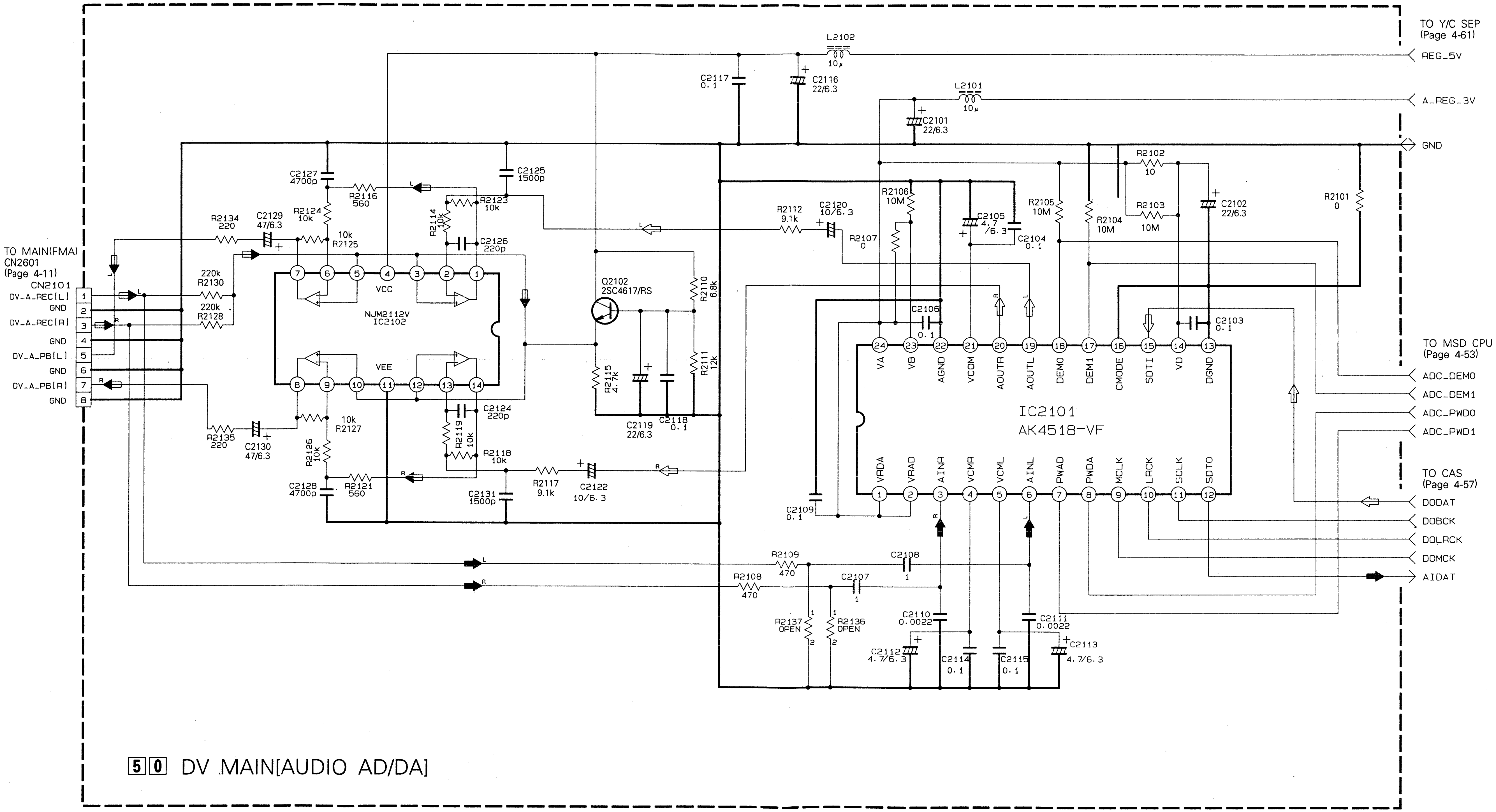
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



5 0 DV MAIN[MSD CPU]
TO DV CPU (Page 4-51)
AL_3V
AL_A_3V
GND
AL_2.2V
AL_5V
K1401
C1401 47/6.3
L1401 10μ
C1402 47/6.3
C1403 0.1
R1450 56
Q1405 2SB1234
R1451 1.5k
K1402
R1421 3.3k
R1422 1.5k
R1423 1K
R1431 3.3K
R1432 3.3K
R1433 3.3K
Q1401 DTA114EE
C1404 0.1
R1406 1K
R1415 22K
R1416 15k
R1424 1K
RA1401 1K
Q1402 UMG3N
R1401 OPEN
R1402 0
R1407 1K
R1408 1K
R1409 1K
R1434 560
TO AUDIO AD/DA (Page 4-56)
ADC_DEM0
ADC_DEM1
ADC_PWD0
ADC_PWD1
TO V OUT (Page 4-66)
AGC_RST
TO DIGITAL IF (Page 4-69)
BCLK
DC
TO CAS (Page 4-58)
BLW
RD
ALE
DT15
ADDT14
ADDT13
ADDT12
ADDT11
ADDT10
ADDT09
ADDT08
ADDT07
ADDT06
ADDT05
ADDT04
ADDT03
ADDT02
ADDT01
ADDT00
TO CAS (Page 4-58)
TO DIGITAL IF (Page 4-70)
C1408 0.1
K1404 BCLK
IC1401 M31020MA-148VP
DEW_SENS
E_SENS
S_SENS
AVREF
AVCC
VCC2
VSS
DIF_RST
BCLK
DC
R/W
ALE
RD
BLW
BHW
D00
D01/A16
D02/A17
D03/A18
D04/A19
D05/A20
D06/A21
D07/A22
D08/A23
D09/A24
D10/A25
D11/A26
D12/A27
D13/A28
D14/A29
D15/A30
VSS
VCC2
AN03
AN04
AN05
AN06
BCID1
BCID2
BCID3
AN10
AN11
AN12
AVSS
P87/ADTRG
P86/TC6
P85/TB6
P84/TA5
P77/TB4
P76/TA4
P75/TB3
P74/TA3
P73/TB2
P72/TA2
VCC
VSS
TAPE_LED
FRP
MIC_SCK
MIC_SDA
MIC_CTL
A_PLL
V_PLL
CAP_REF
DRUM_REF
NM1
NSELECT
P57/INT1
P56/INT2
P55/INT3
DIF_INT
VSS
VCC
SYS_OUT
SYS_IN
SYS_CLK
HREADY
DIC_OUT
DIC_IN
DIC_CLK
DIF_RST
MDA_OUT
MDA_IN
MDA_CLK
MDA_CS
RXD
TXD
CAP_BRK
LD_ON
DIC_RST
VCC
VSS
PWMO
MCVS
FRP
SSP
S_REEL
T_REEL
SPA
HID
TSR
CAP_FG
DRUM_FG
VSS
VCC
RF_STAB
RF_FAST
RF_TRICK
REEL_LED
REC_SAFE
VSS
HLDA
HOLD
RESET
MOD0
MOD1
VCC
VSS
VCCA
ADC_DEM0
ADC_DEM1
ADC_PWD0
ADC_PWD1
DIC_STP1
DIC_STP2
CAP_FAST
P97
VSS
OSCVCC
XIN
XOUT
OSCVSS
VSS
VCC
HOUSING_IN
HOUSING_OUT
HOUSING_SW
SYNC_OFF
EE_MUTE
VSYNC[L]
P106
CAS_SW
P110
P111
P112
P113
MSD_PB
P115
EXT_EE[L]
P117
VCC
VSS
CAM0
CAM1
CAM2
TL1401
TL1402
C1405 0.1
TO DV CPU (Page 4-51, 4-52)
M16_CS
S_DT_OUT
S_DT_IN
S_CLK
M16_RDY
DIC_RST
FF/REW
MSD_PB[H]
Q1403 UMC3N
Q1404 UMC3N
C1415 22/6.3
R1429 33
R1430 100
TO SENSOR
CN1401
15 REC_SAFTY_SW
14 GND
13 START_SENSOR
12 GND
11 LED
10 MIC_1
9 END_SENSOR
8 SUP_REEL_SENSOR
7 SUP_REEL_LED
6 MIC_2
5 TU_REEL_SENSOR
4 TU_REEL_LED
3 GND
2 MIC_3
1 CASETTE_SW
R1411 3.3K
R1412 3.3K
R1413 3.3K
R1414 3.3K
C1411 0.022
C1412 0.022
C1413 0.022
C1414 0.022
R1417 10k
IC1402 TC7W04F
R1427 10K
R1428 10K
R1426 4.7K
R1425 4.7K
R1419 10k
R1420 10k
TO EQ DA (Page 4-63)
RF_STAB
RF_FAST
RF_TRICK
TO DV CPU (Page 4-52)
CAS_SW
HOUSING_SW
RA1403 47K
RA1402 1K
TO DV PRE/REC(MDA) CN1606 (Page 4-42)
CN1402
20 CAM_SW3
19 CAM_SW2
18 CAM_SW1
17 GND
16 HOUSING_SW
15 HOUSING_OUT
14 HOUSING_IN
13 CAP_REF
12 DRUM_REF
11 MOTOR_GND
10 MDA_OUT
9 MDA_IN
8 MDA_CLK
7 MDA_CS
6 CAP_BRK
5 LD_ON
4 CAP_FG
3 DRUM_FG
2 DRUM_PG
1 GND
R1418 10k
R1440 10k
TO Y/C SEP (Page 4-62)
EXT_EE[L]
TO DV I/O (Page 4-59, 4-60)
A_PLL
V_PLL
FRP
DIC_STP1
MCVS
SYNC_OFF
EE_MUTE
VSYNC[L]
TO DIGITAL IF (Page 4-69)
FRP
SSP
DIF_INT
DIF_RST
TO CAS (Page 4-57, 4-58)
DIF_RST
DIC_CLK
DIC_DIO
DIC_STP2
TSR
HID
SPA
SSP
PWMO
DRUM_FG
DRUM_PG
TO DV I/O (Page 4-60)
DIF_RST
DIC_CLK
DIC_DIO
R1410 1K
R1405 1K
C1416 0.1
C1407 0.1
R1438 560
R1439 1.5k
K1403
C1406 0.1
R1403 1M
R1404 22
X1401 (27MHz)
C1410 12p
C1409 12p
1
2
3
4
5
A
B
C
D
E
F
G
H

4.25 AUDIO AD/DA SCHEMATIC DIAGRAM

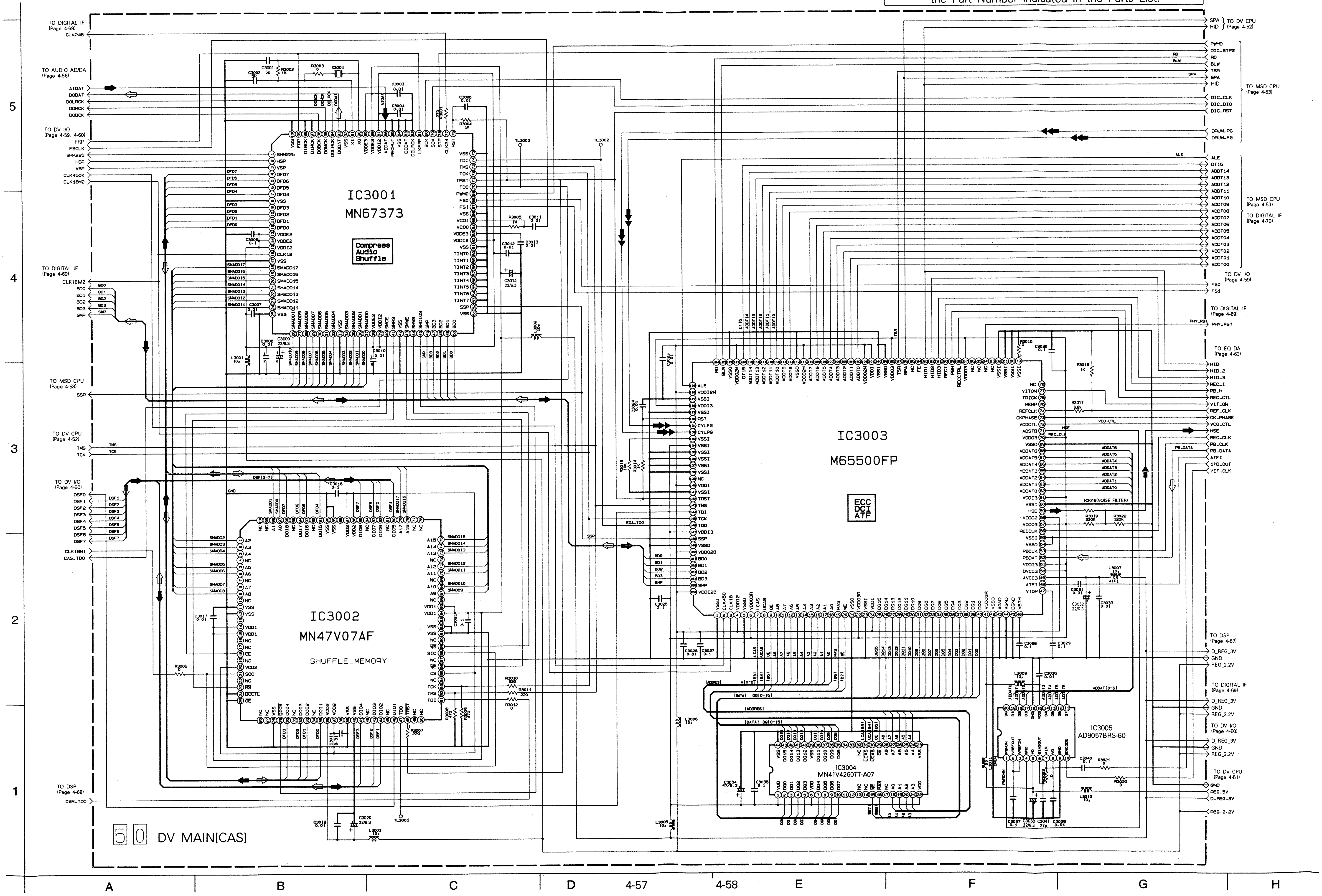
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO Y/C SEP
(Page 4-61)
REG_5V
A_REG_3V
GND
TO MSD CPU
(Page 4-53)
ADC_DEMO
ADC_DEM1
ADC_PWDO
ADC_PWD1
TO CAS
(Page 4-57)
DODAT
DOBCK
DOLRCK
DOMCK
AIDAT
TO MAIN(FMA)
CN2601
(Page 4-11)
CN2101
DV_A_REC[L]
GND
DV_A_REC[R]
GND
DV_A_PB[L]
GND
DV_A_PB[R]
GND
L2102
10μ
L2101
10μ
C2117
0.1
C2116
22/6.3
C2101
22/6.3
C2127
4700p
C2125
1500p
R2116
560
R2123
10k
R2124
10k
R2114
10k
C2126
220p
R2134
220
C2129
47/6.3
10k
R2125
220k
R2130
220k
R2128
NJM2112V
IC2102
VCC
VEE
Q2102
2SC4617/RS
R2110
6.8k
R2111
12k
R2115
4.7k
C2119
22/6.3
C2118
0.1
C2124
220p
R2119
10k
R2118
10k
R2135
220
C2130
47/6.3
10k
R2127
R2126
10k
C2128
4700p
R2121
560
C2131
1500p
R2117
9.1k
C2122
10/6.3
R2112
9.1k
C2120
10/6.3
R2107
0
R2106
10M
C2105
4.7
/6.3
C2104
0.1
R2105
10M
R2104
10M
R2102
10
R2103
10M
C2102
22/6.3
R2101
0
C2106
0.1
C2103
0.1
IC2101
AK4518-VF
VA
VB
AGND
VCOM
AOUTR
AOUTL
DEMO
DEM1
CMODE
SDTI
VD
DGND
VRDA
VRAD
AINR
VCMR
VCML
AINL
PWAD
PWDA
MCLK
LRCK
SCLK
SDTO
C2109
0.1
R2109
470
C2108
1
R2108
470
C2107
1
R2137
OPEN
R2136
OPEN
C2110
0.0022
C2111
0.0022
C2112
4.7/6.3
C2114
0.1
C2115
0.1
C2113
4.7/6.3
5 0 DV MAIN[AUDIO AD/DA]

4.26 CAS SCHEMATIC DIAGRAM

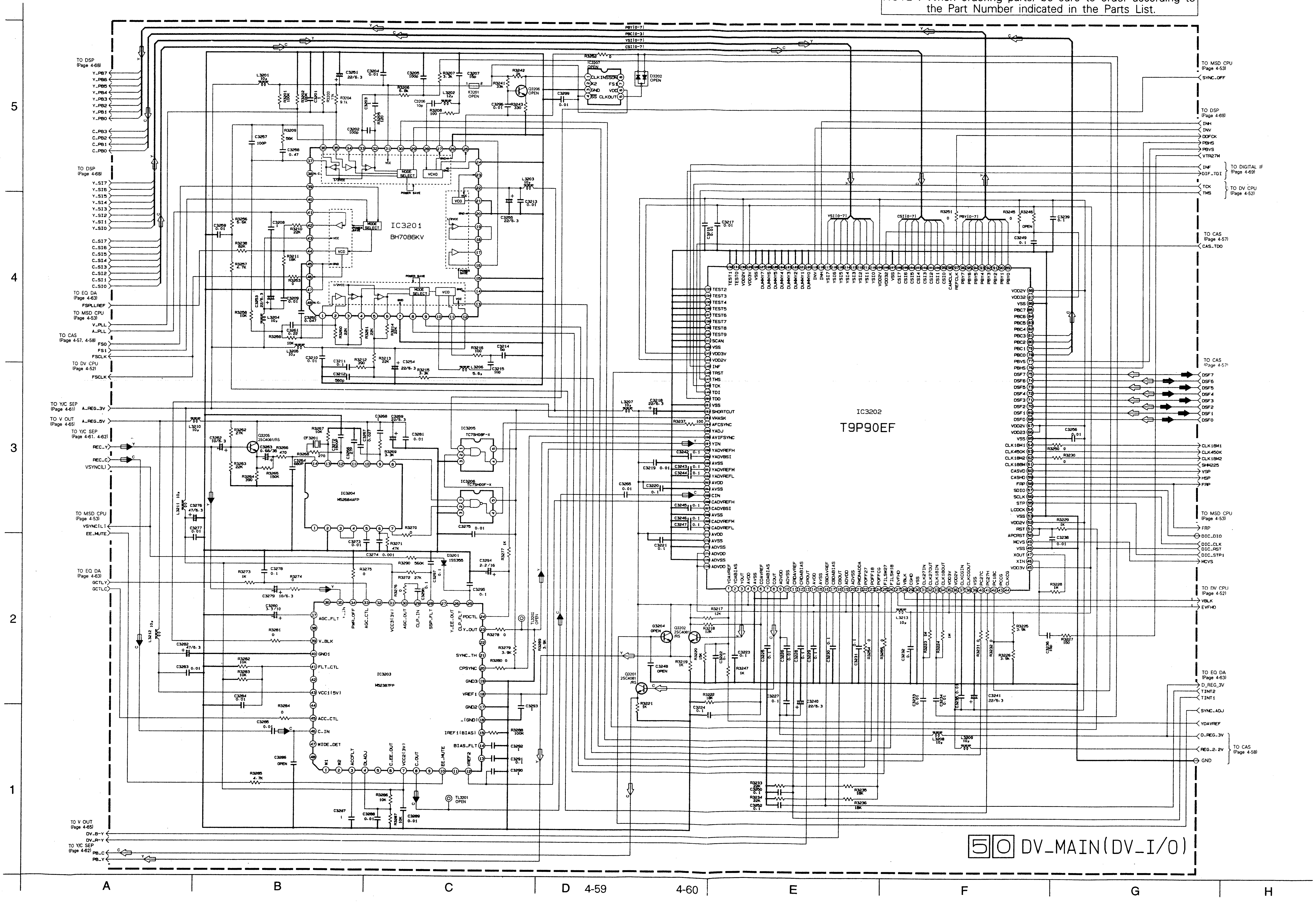
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO DIGITAL IF (Page 4-69)
CLK246
TO AUDIO AD/DA (Page 4-56)
AIDAT
DODAT
DOLRCK
DOMCK
DOBCK
TO DV I/O (Page 4-59, 4-60)
FRP
FSCLK
SHM225
HSP
VSP
CLK450K
CLK18M2
TO DIGITAL IF (Page 4-69)
CLK18M2
BD0
BD1
BD2
BD3
SMP
TO MSD CPU (Page 4-53)
SSP
TO DV CPU (Page 4-52)
TMS
TCK
TO DV I/O (Page 4-60)
DSF0
DSF1
DSF2
DSF3
DSF4
DSF5
DSF6
DSF7
CLK18M1
CAS_TDO
TO DSP (Page 4-68)
CAM_TDO
IC3001
MN67373
Compress Audio Shuffle
IC3002
MN47V07AF
SHUFFLE_MEMORY
IC3003
M65500FP
ECC DCI ATF
IC3004
MN41V4260TT-A07
IC3005
AD9057BRS-60
TL3001
TL3002
TL3003
X3001
SPA
HID
TO DV CPU (Page 4-52)
PWMO
DIC_STP2
RD
BLW
TSR
SPA
HID
DIC_CLK
DIC_DIO
DIC_RST
TO MSD CPU (Page 4-53)
DRUM_PG
DRUM_FG
ALE
DT15
ADDT14
ADDT13
ADDT12
ADDT11
ADDT10
ADDT09
ADDT08
ADDT07
ADDT06
ADDT05
ADDT04
ADDT03
ADDT02
ADDT01
ADDT00
TO MSD CPU (Page 4-53)
TO DIGITAL IF (Page 4-70)
TO DV I/O (Page 4-59)
FS0
FS1
TO DIGITAL IF (Page 4-69)
PHY_RST
TO EQ DA (Page 4-63)
HID
HID_2
HID_3
REC_I
PB_H
REC_CTL
VIT_ON
REF_CLK
CK_PHASE
VCO_CTL
HSE
REC_CLK
PB_CLK
PB_DATA
ATFI
1+0_OUT
VIT_CLK
TO DSP (Page 4-67)
D_REG_3V
GND
REG_2.2V
TO DIGITAL IF (Page 4-69)
D_REG_3V
GND
REG_2.2V
TO DV I/O (Page 4-60)
D_REG_3V
GND
REG_2.2V
TO DV CPU (Page 4-51)
GND
REG_5V
D_REG_3V
REG_2.2V
R3018(NOISE FILTER)
[ADDRES]
[DATA] DQ[0-15]
ADDAT[0-6]
DSF[0-7]
EDA_TDO
50 DV MAIN[CAS]
A
B
C
D
E
F
G
H
1
2
3
4
5

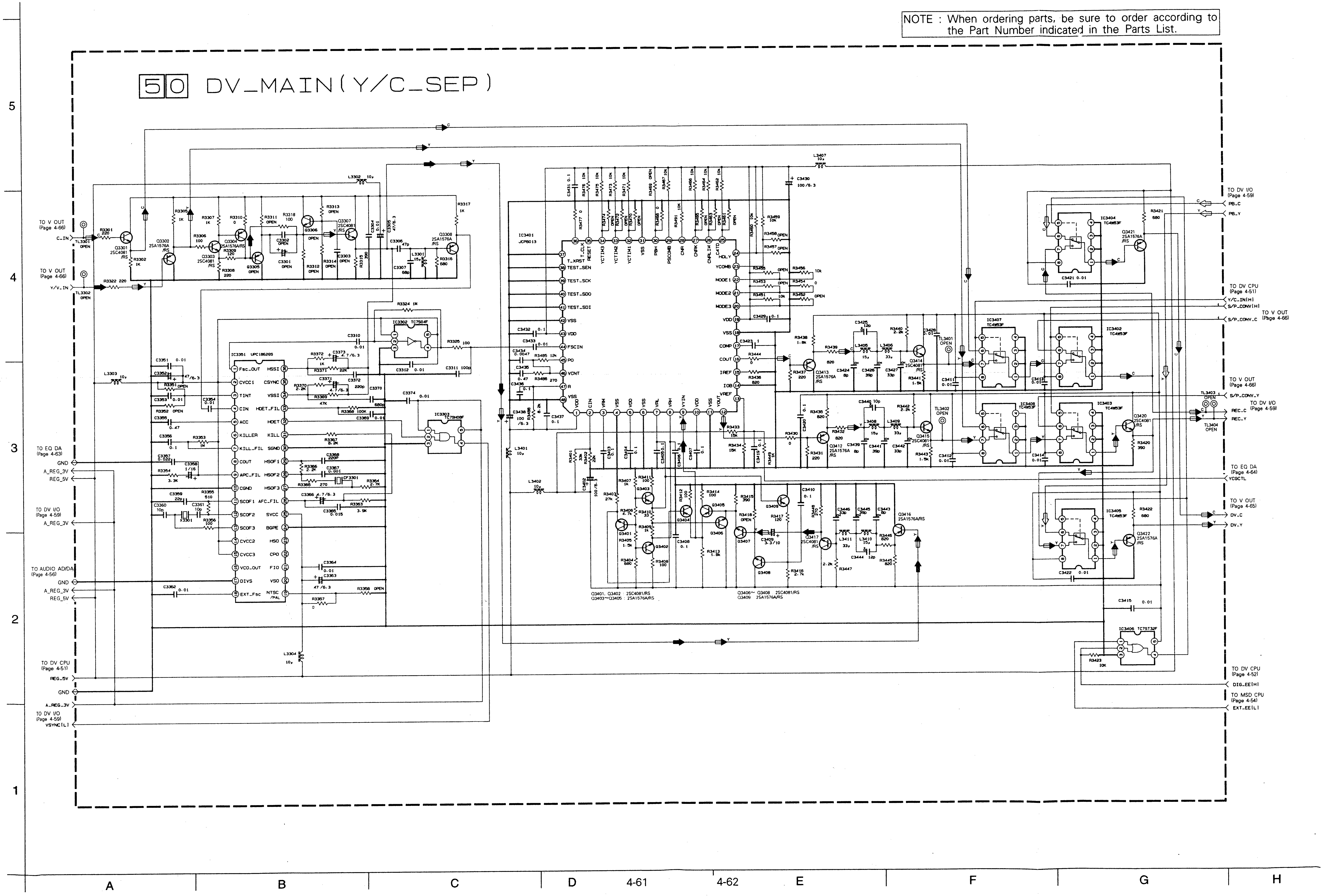
4.27 DV I/O SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


TO DSP (Page 4-68)
Y_PB7
Y_PB6
Y_PB5
Y_PB4
Y_PB3
Y_PB2
Y_PB1
Y_PB0
C_PB3
C_PB2
C_PB1
C_PB0
TO DSP (Page 4-68)
Y_SI7
Y_SI6
Y_SI5
Y_SI4
Y_SI3
Y_SI2
Y_SI1
Y_SI0
C_SI7
C_SI6
C_SI5
C_SI4
C_SI3
C_SI2
C_SI1
C_SI0
TO EQ DA (Page 4-63)
FSPLLREF
TO MSD CPU (Page 4-53)
V_PLL
A_PLL
TO CAS (Page 4-57, 4-58)
FS0
FS1
FSCLK
TO DV CPU (Page 4-52)
FSCLK
TO Y/C SEP (Page 4-61)
A_REG_3V
TO V OUT (Page 4-65)
A_REG_5V
TO Y/C SEP (Page 4-61, 4-62)
REC_Y
REC_C
VSYNC(L)
TO MSD CPU (Page 4-53)
VSYNC(L)
EE_MUTE
TO EQ DA (Page 4-63)
GCTLY
GCTLC
TO V OUT (Page 4-65)
DV_B-Y
DV_R-Y
TO Y/C SEP (Page 4-62)
PB_C
PB_Y
PBY[0-7]
PBC[0-3]
YSI[0-7]
CSI[0-7]
IC3201
BH7086KV
MODE SELECT
VCXO
VCO
POWER SAVE
IC3207
CLKIN
SSON
FS
VDD
GND
VSS
CLKOUT
D3202 OPEN
Q3206 OPEN
K3201 OPEN
IC3204
M52684AFP
IC3205 TC7SH08F-X
IC3206 TC7SH08F-X
Q3205 2SC4081/RS
D3201 1SS356
IC3203
M52387FP
AGC_FLT
PWR_OFF
ACC_CTL
VCC3(3V)
AGC_OUT
CLP_IN
SSP_FLT
Y_EE_OUT
CLP_FLT
PDCTL
Y_OUT
V_BLK
GND1
FLT_CTL
VCC1(5V)
ACC_CTL
C_IN
WIDE_DET
SYNC_TH
CPSYNC
GND3
VREF1
GND2
_(GND)
IREF1(BIAS)
BIAS_FLT
VREF2
M1
M2
ACCFLT
DLADJ
C_EE_OUT
VCC2(3V)
V_OUT
EE_MUTE
TL3201 OPEN
TL3202 OPEN
IC3202
T9P90EF
TEST1
TEST0
VDD3V
VDD2V
VSS
DUMMY6
DUMMY5
DUMMY4
DUMMY3
DUMMY2
DUMMY1
DUMMY0
INH
YSI7
YSI6
YSI5
YSI4
YSI3
YSI2
YSI1
YSI0
VDD2V
VSS
CSI7
CSI6
CSI5
CSI4
CSI3
CSI2
CSI1
CSI0
CAMCLK
REFCLK
PBY7
PBY6
PBY5
PBY4
PBY3
PBY2
PBY1
PBY0
TEST2
TEST3
TEST4
TEST5
TEST6
TEST7
TEST8
TEST9
SCAN
VSS
VDD3V
VDD2V
INF
TRST
TMS
TCK
TDI
TDO
VSS
SHORTCUT
VMASK
AFCSYNC
YADJ
AVIFSYNC
YIN
YADVREFH
YADVBSI
AVSS
YADVREFM
YADVREFL
AVDD
AVSS
CIN
CADVREFH
CADVBSI
AVSS
CADVREFM
CADVREFL
AVDD
AVSS
ADVSS
ADVDD
ADVSS
ADVDD
VDD2V
VDD3V
VSS
PBC7
PBC6
PBC5
PBC4
PBC3
PBC2
PBC1
PBC0
PBVS
PBHS
DSF7
DSF6
DSF5
DSF4
DSF3
DSF2
DSF1
DSF0
VDD2V
VDD23
VSS
CLK18M1
CLK450K
CLK18M2
CLK18BM
CASVD
CASHD
FRP
SDIO
SCLK
STP
LCDCK
VSS
VDD2V
RST
APCRST
MCVS
VSS
XOUT
XIN
VDD3V
YDAVREF
YDABIAS
YOUT
AVDD
AVSS
CDAVREF
CDABIAS
COUT
ADVDD
ADVSS
CRDAVREF
CRDABIAS
CROUT
AVDD
AVSS
CBDAVREF
CBDABIAS
CBOUT
ADVDD
ADVSS
FMPHADA
PDPFF27
PDPF18
PDPFCG
FILSWS27
FILSW18
EVFHD
VBLK
CKHD
VSS
CLK27IN
CLK27OUT
CLK18IN
CLK18OUT
VDD3V
VDD2V
CLKCGOUT
CLKCGIN
VSS
PC27C
PC27H
PC18C
PCCG
CLKCG
Q3204 OPEN
Q3202 2SC4081/RS
Q3201 2SC4081/RS
TO MSD CPU (Page 4-53)
SYNC_OFF
TO DSP (Page 4-68)
INH
INV
DOFCK
PBHS
PBVS
VTR27M
INF
DIF_TDI
TO DIGITAL IF (Page 4-69)
TCK
TMS
TO DV CPU (Page 4-52)
TO CAS (Page 4-57)
CAS_TDO
TO CAS (Page 4-57)
DSF7
DSF6
DSF5
DSF4
DSF3
DSF2
DSF1
DSF0
CLK18M1
CLK450K
CLK18M2
SHH225
VSP
HSP
FRP
TO MSD CPU (Page 4-53)
FRP
DIC_DIO
DIC_CLK
DIC_RST
DIC_STP1
MCVS
TO DV CPU (Page 4-52)
VBLK
EVFHD
TO EQ DA (Page 4-63)
D_REG_3V
TINT2
TINT1
SYNC_ADJ
YDAVREF
D_REG_3V
REG_2.2V
GND
TO CAS (Page 4-58)
50 DV_MAIN(DV_I/O)
A
B
C
D
E
F
G
H
1
2
3
4
5

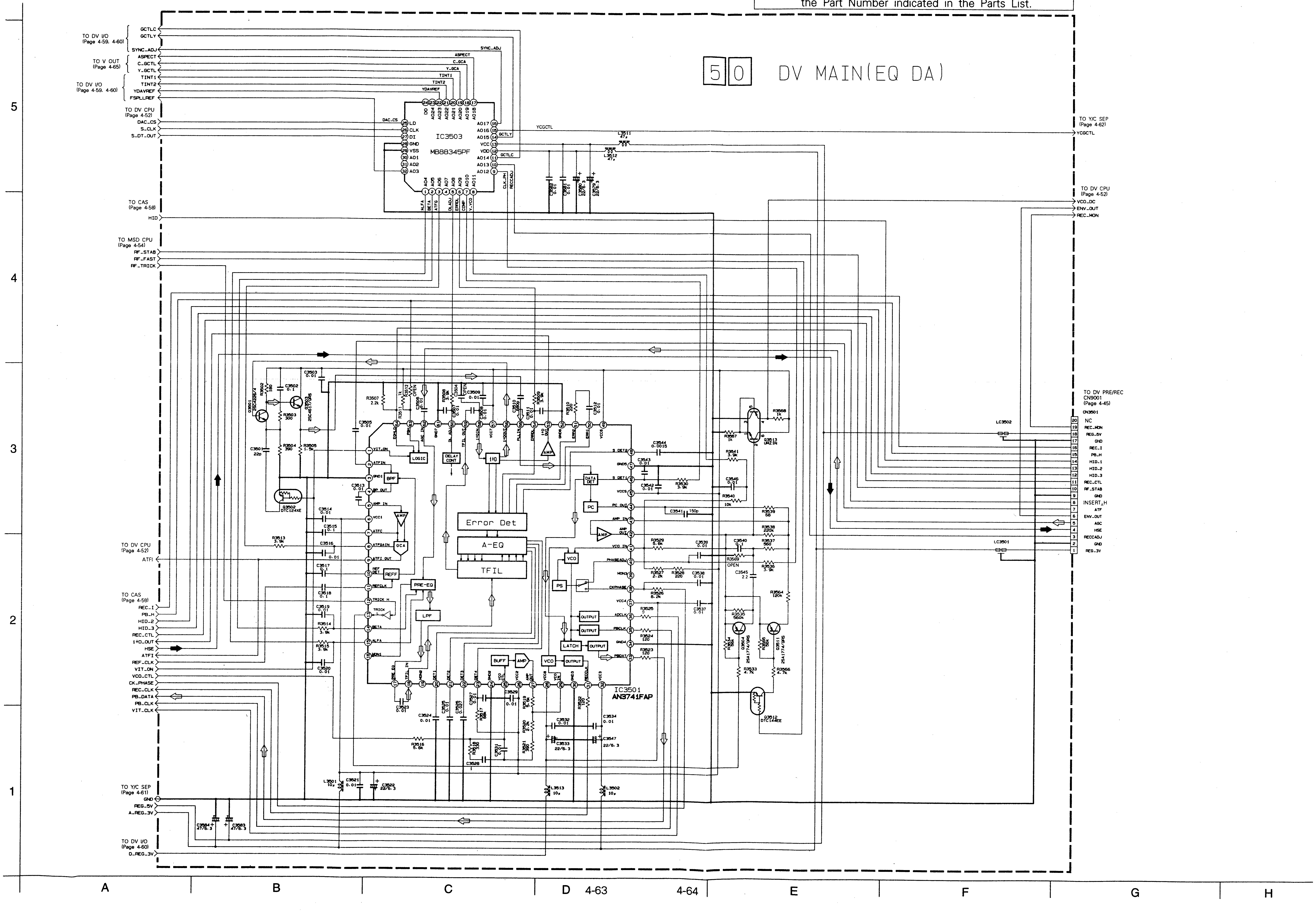
4.28 Y/C SEP SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DV_MAIN(Y/C_SEP)
TO V OUT (Page 4-66) C_IN
TO V OUT (Page 4-66) Y/V_IN
TO EQ DA (Page 4-63) GND A_REG_3V REG_5V
TO DV I/O (Page 4-59) A_REG_3V
TO AUDIO AD/DA (Page 4-56) GND A_REG_3V REG_5V
TO DV CPU (Page 4-51) REG_5V GND A_REG_3V
TO DV I/O (Page 4-59) VSYNC(L)
IC3351 UPC186205
IC3302 TC7S04F
IC3303 TC7SH08F
IC3401 JCP8013
IC3404 TC4W53F
IC3407 TC4W53F
IC3402 TC4W53F
IC3408 TC4W53F
IC3403 TC4W53F
IC3405 TC4W53F
IC3406 TC7S32F
TO DV I/O (Page 4-59) PB_C PB_Y
TO DV CPU (Page 4-51) Y/C_IN(H) S/P_CONV(H)
TO V OUT (Page 4-66) S/P_CONV_C
TO V OUT (Page 4-66) S/P_CONV_Y
TO DV I/O (Page 4-59) REC_C REC_Y
TO EQ DA (Page 4-64) YCSCTL
TO V OUT (Page 4-65) DV_C DV_Y
TO DV CPU (Page 4-52) DIG_EE(H)
TO MSD CPU (Page 4-54) EXT_EE(L)
Q3401, Q3402 : 2SC4081/RS
Q3403~Q3405 : 2SA1576A/RS
Q3406~Q3408 2SC4081/RS
Q3409 2SA1576A/RS
5
4
3
2
1
A
B
C
D
E
F
G
H

4.29 EQ DA SCHEMATIC DIAGRAM

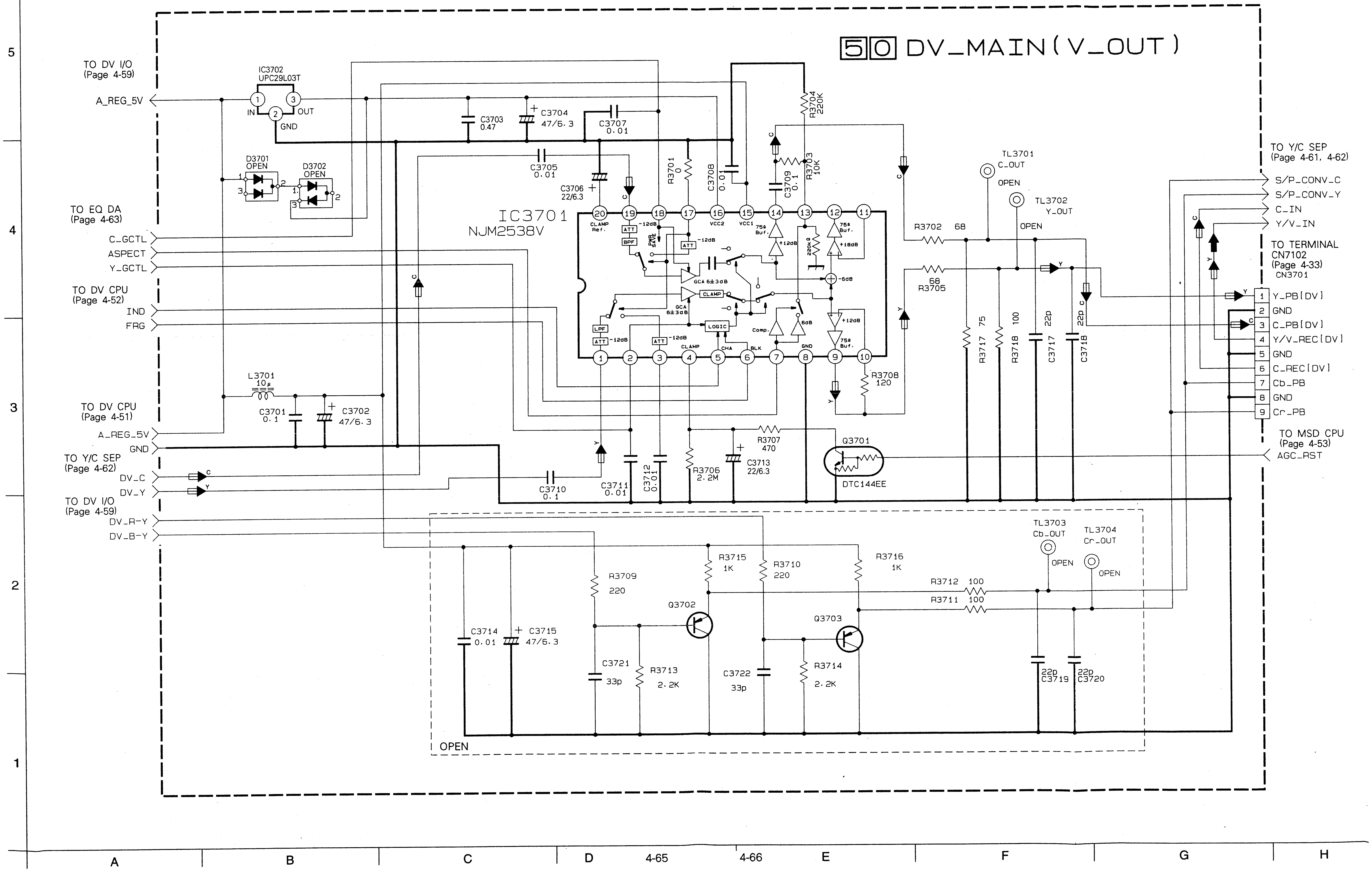
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DV MAIN(EQ DA)
TO DV I/O (Page 4-59, 4-60)
GCTLC
GCTLY
SYNC_ADJ
TO V OUT (Page 4-65)
ASPECT
C_GCTL
Y_GCTL
TO DV I/O (Page 4-59, 4-60)
TINT1
TINT2
YDAVREF
FSPLLREF
TO DV CPU (Page 4-52)
DAC_CS
S_CLK
S_DT_OUT
TO CAS (Page 4-58)
HID
TO MSD CPU (Page 4-54)
RF_STAB
RF_FAST
RF_TRICK
TO DV CPU (Page 4-52)
ATFI
TO CAS (Page 4-58)
REC_I
PB_H
HID_2
HID_3
REC_CTL
I+D_OUT
HSE
ATFI
REF_CLK
VIT_ON
VCO_CTL
CK_PHASE
REC_CLK
PB_DATA
PB_CLK
VIT_CLK
TO Y/C SEP (Page 4-61)
GND
REG_5V
A_REG_3V
TO DV I/O (Page 4-60)
D_REG_3V
IC3503
MB88345PF
IC3501
AN3741FAP
Error Det
A-EQ
TFIL
LOGIC
DELAY CONT
BPF
GCA
REFF
PRE-EQ
LPF
BUFF
AMP
VCO
OUTPUT
LATCH
DATA DET
PC
PS
TO Y/C SEP (Page 4-62)
YCGCTL
TO DV CPU (Page 4-52)
VCO_DC
ENV_OUT
REC_MON
TO DV PRE/REC CN9001 (Page 4-45)
CN3501
NC
REC_MON
REG_5V
GND
REC_I
PB_H
HID_1
HID_2
HID_3
REC_CTL
RF_STAB
GND
INSERT_H
ATF
ENV_OUT
AGC
HSE
RECCADJ
GND
REG_3V
LC3501
LC3502
Q3501 2SB1226/4
Q3502 DTC124XE
Q3503 2SC4617/QRS
Q3504 2SA1774/QRS
Q3511 2SA1774/QRS
Q3512 DTC144EE
Q3513 UMZ1N
L3501 10μ
L3502 10μ
L3511 47μ
L3512 47μ
L3513 10μ
C3583 47/6.3
C3584 47/6.3
1
2
3
4
5
A
B
C
D
E
F
G
H

4.30 V OUT SCHEMATIC DIAGRAM

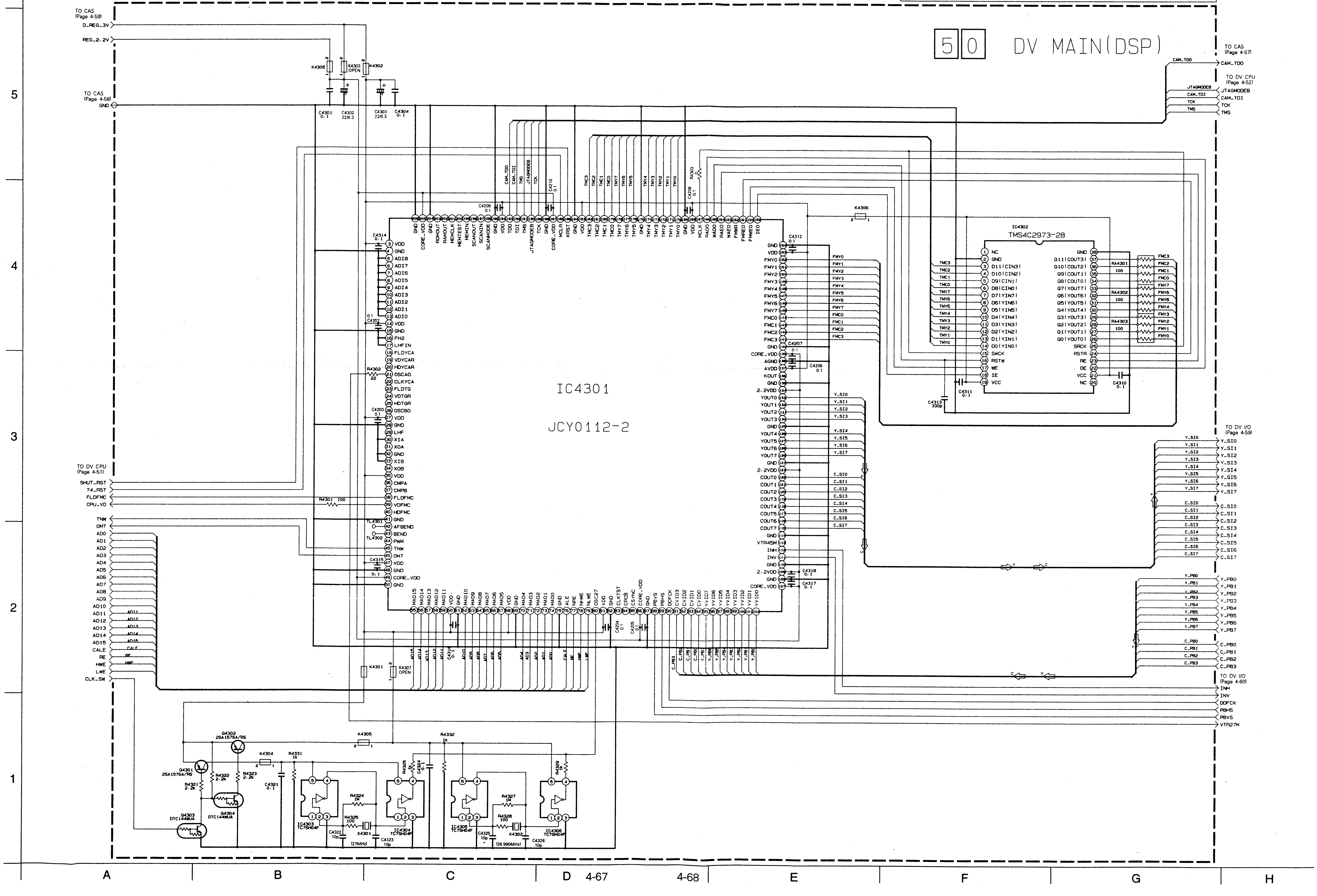
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



50 DV_MAIN(V_OUT)
TO DV I/O (Page 4-59)
A_REG_5V
IC3702 UPC29L03T
IN
OUT
GND
C3703 0.47
C3704 47/6.3
C3707 0.01
D3701 OPEN
D3702 OPEN
C3705 0.01
C3706 22/6.3
R3701 0
C3708 0.01
C3709 0.1
R3703 10K
R3704 220K
IC3701 NJM2538V
TO EQ DA (Page 4-63)
C_GCTL
ASPECT
Y_GCTL
TO DV CPU (Page 4-52)
IND
FRG
L3701 10μ
C3701 0.1
C3702 47/6.3
TO DV CPU (Page 4-51)
A_REG_5V
GND
TO Y/C SEP (Page 4-62)
DV_C
DV_Y
TO DV I/O (Page 4-59)
DV_R-Y
DV_B-Y
CLAMP Ref.
VCC2
VCC1
75Ω Buf.
ATT
BPF
PWR SAVE
-12dB
+12dB
+18dB
GCA 6±3dB
CLAMP
LPF
LOGIC
Comp.
6dB
-6dB
CHA
BLK
GND
R3707 470
R3706 2.2M
C3713 22/6.3
C3710 0.1
C3711 0.01
C3712 0.01
R3708 120
Q3701 DTC144EE
R3702 68
R3705 68
TL3701 C_OUT OPEN
TL3702 Y_OUT OPEN
R3717 75
R3718 100
C3717 22p
C3718 22p
TO Y/C SEP (Page 4-61, 4-62)
S/P_CONV_C
S/P_CONV_Y
C_IN
Y/V_IN
TO TERMINAL CN7102 (Page 4-33)
CN3701
1 Y_PB[DV]
2 GND
3 C_PB[DV]
4 Y/V_REC[DV]
5 GND
6 C_REC[DV]
7 Cb_PB
8 GND
9 Cr_PB
TO MSD CPU (Page 4-53)
AGC_RST
C3714 0.01
C3715 47/6.3
R3709 220
C3721 33p
R3713 2.2K
Q3702
R3715 1K
R3710 220
C3722 33p
R3714 2.2K
Q3703
R3716 1K
R3712 100
R3711 100
TL3703 Cb_OUT OPEN
TL3704 Cr_OUT OPEN
C3719 22p
C3720 22p
OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

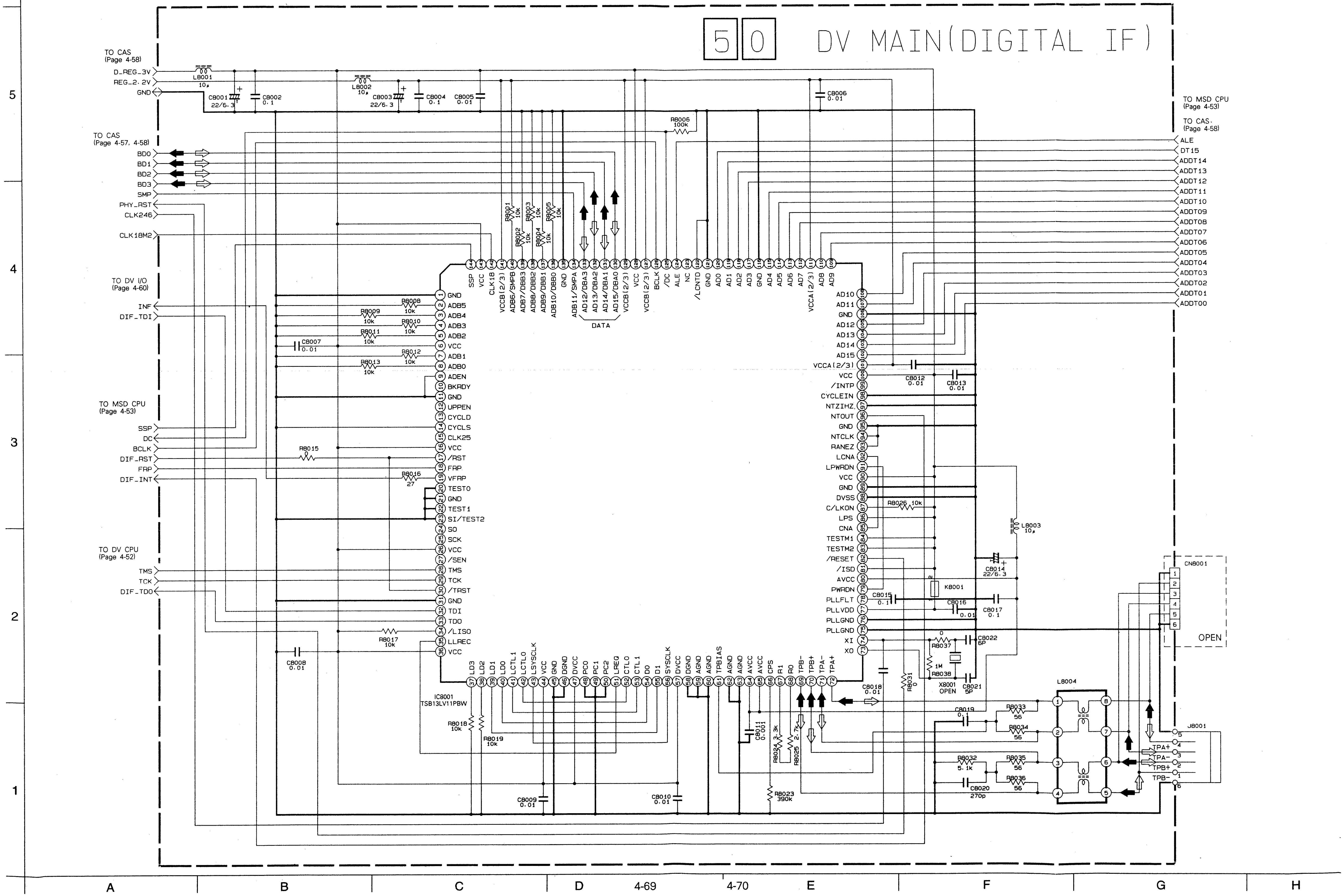
4.31 DSP SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DV MAIN(DSP)
TO CAS (Page 4-58)
D_REG_3V
REG_2.2V
TO CAS (Page 4-58)
GND
TO DV CPU (Page 4-51)
SHUT_RST
74_RST
FLDFMC
CPU_VD
TNW
OMT
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
CALE
RE
HWE
LWE
CLK_SW
K4308
K4303 OPEN
K4302
C4301 0.1
C4302 22/6.3
C4303 22/6.3
C4304 0.1
IC4301
JCY0112-2
IC4302
TMS4C2973-28
K4306
R4301 100
R4302 22
R4303
C4207 0.1
C4206 0.1
C4312 0.1
C4313 330p
C4311 0.1
C4310 0.1
RA4301 100
RA4302 100
RA4303 100
TO CAS (Page 4-57)
CAM_TDO
TO DV CPU (Page 4-52)
JTAGMODEB
CAM_TDI
TCK
TMS
TO DV I/O (Page 4-59)
Y_SI0
Y_SI1
Y_SI2
Y_SI3
Y_SI4
Y_SI5
Y_SI6
Y_SI7
C_SI0
C_SI1
C_SI2
C_SI3
C_SI4
C_SI5
C_SI6
C_SI7
Y_PB0
Y_PB1
Y_PB2
Y_PB3
Y_PB4
Y_PB5
Y_PB6
Y_PB7
C_PB0
C_PB1
C_PB2
C_PB3
TO DV I/O (Page 4-60)
INH
INV
DDFCK
PBHS
PBVS
VTR27M
K4301
K4307 OPEN
K4305
K4304
R4331 1k
R4332 1k
Q4301 2SA1576A/RS
Q4302 2SA1576A/RS
Q4303 DTC144WUA
Q4304 DTC144WUA
R4321 2.2k
R4322 2.2k
R4323 2.2k
C4321 0.1
IC4303 TC7SH04F
IC4304 TC7SH04F
IC4305 TC7SH04F
IC4306 TC7SH04F
R4324 1M
R4325 100
R4326 1k
R4327 1M
R4328 100
R4329 1k
C4322 10p
C4323 10p
C4325 10p
C4326 10p
X4301 (27MHz)
X4302 (26.995MHz)
1
2
3
4
5
A
B
C
D
E
F
G
H

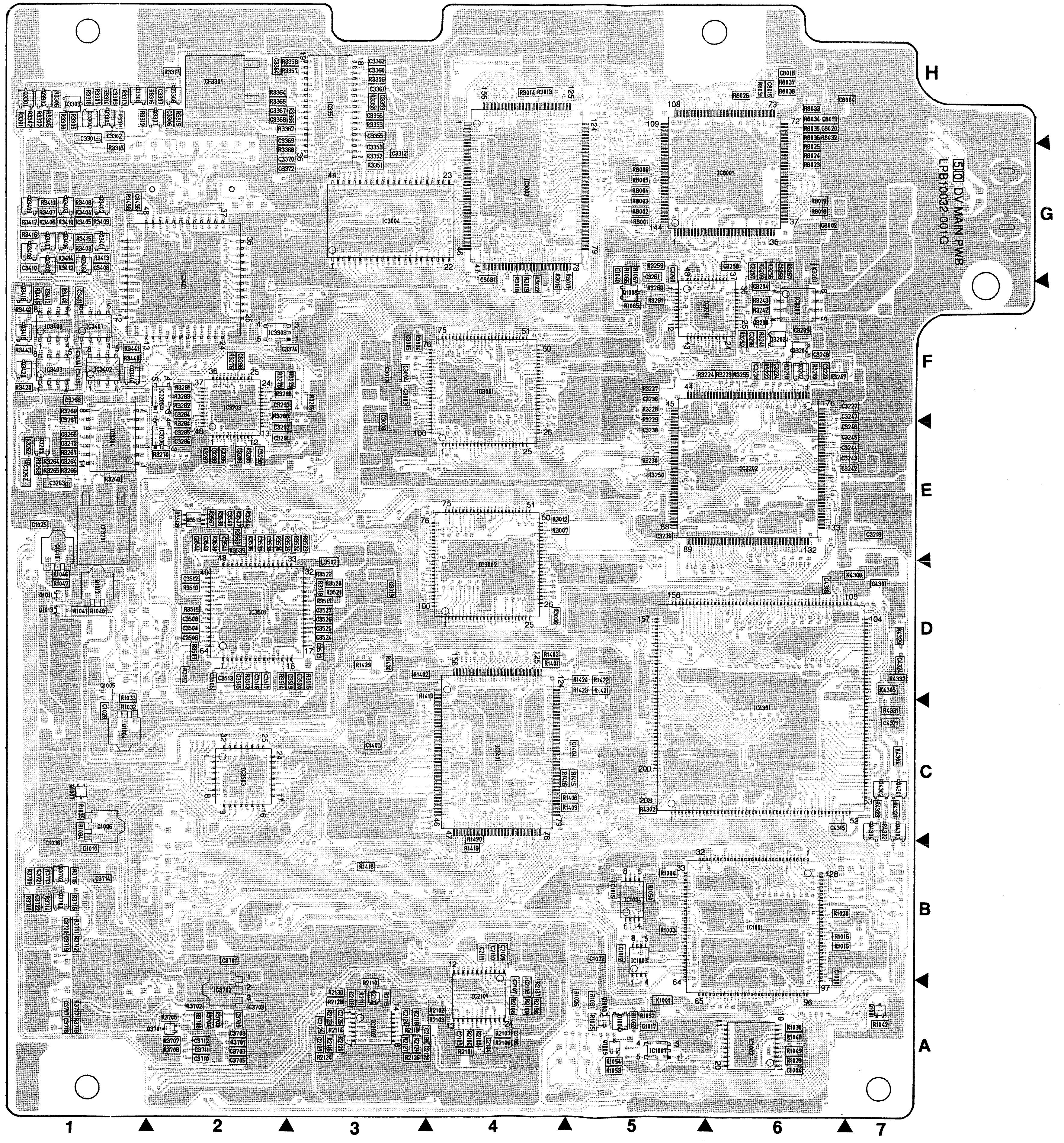
4.32 DIGITAL IF SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


50 DV MAIN(DIGITAL IF)
TO CAS (Page 4-58)
D_REG_3V
REG_2.2V
GND
L8001 10μ
C8001 22/6.3
C8002 0.1
L8002 10μ
C8003 22/6.3
C8004 0.1
C8005 0.01
C8006 0.01
R8006 100k
TO CAS (Page 4-57, 4-58)
BD0
BD1
BD2
BD3
SMP
PHY_RST
CLK246
CLK18M2
TO DV I/O (Page 4-60)
INF
DIF_TDI
TO MSD CPU (Page 4-53)
SSP
DC
BCLK
DIF_RST
FRP
DIF_INT
TO DV CPU (Page 4-52)
TMS
TCK
DIF_TDO
R8001 10k
R8002 10k
R8003 10k
R8004 10k
R8005 10k
R8008 10k
R8009 10k
R8010 10k
R8011 10k
R8012 10k
R8013 10k
R8015
R8016 27
R8017 10k
R8018 10k
R8019 10k
C8007 0.01
C8008 0.01
C8009 0.01
C8010 0.01
C8011 0.001
R8024 3.3k
R8025 2.7k
R8023 390k
R8031 0
C8018 0.01
SSP VCC CLK18 VCCB(2/3) ADB6/SMPB ADB7/DBB3 ADB8/DBB2 ADB9/DBB1 ADB10/DBB0 GND ADB11/SMPA AD12/DBA3 AD13/DBA2 AD14/DBA1 AD15/DBA0 VCC VCCB(2/3) BCLK /DC ALE NC /LCNTD GND AD0 AD1 AD2 AD3 GND AD4 AD5 AD6 AD7 VCCA(2/3) AD8 AD9
DATA
GND ADB5 ADB4 ADB3 ADB2 VCC ADB1 ADB0 ADEN BKRDY GND UPPEN CYCLD CYCLS CLK25 VCC /RST FRP VFRP TESTO GND TEST1 SI/TEST2 SO SCK VCC /SEN TMS TCK /TRST GND TDI TDO /LISO LLREC VCC
LD3 LD2 LD1 LD0 LCTL1 LCTL0 LSYSCLK VCC GND DGND DVCC PC0 PC1 PC2 LREQ CTL0 CTL1 D0 D1 SYSCLK DVCC DGND AGND AGND TPBIAS AGND AGND AVCC AVCC CPS R1 R0 TPB- TPB+ TPA- TPA+
AD10 AD11 GND AD12 AD13 AD14 AD15 VCCA(2/3) VCC /INTP CYCLEIN NTZIHZ NTOUT GND NTCLK RANEZ LCNA LPWRDN VCC GND DVSS C/LKON LPS CNA TESTM1 TESTM2 /RESET /ISD AVCC PWRDN PLLFLT PLLVDD PLLGND PLLGND XI XO
IC8001 TSB13LV11PBW
TO MSD CPU (Page 4-53)
TO CAS (Page 4-58)
ALE
DT15
ADDT14
ADDT13
ADDT12
ADDT11
ADDT10
ADDT09
ADDT08
ADDT07
ADDT06
ADDT05
ADDT04
ADDT03
ADDT02
ADDT01
ADDT00
C8012 0.01
C8013 0.01
R8026 10k
L8003 10μ
C8014 22/6.3
K8001
C8015 0.1
C8016 0.01
C8017 0.1
R8037 0
C8022 6P
R8038 1M
X8001 OPEN
C8021 5P
CN8001
OPEN
L8004
C8019 0.1
R8033 56
R8034 56
R8032 5.1k
R8035 56
R8036 56
C8020 270p
J8001
TPA+
TPA-
TPB+
TPB-
1 2 3 4 5
A B C D E F G H

4.33 DV MAIN CIRCUIT BOARD

— FOIL SIDE (B) —



5|0 DV MAIN PWB
LPB10032-001G
IC3001
IC3002
IC3003
IC3004
IC3202
IC3203
IC3401
IC3500
IC3503
IC4301
IC1401
IC1001
IC2101
IC3702
IC8001
CF3301
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7

COMPONENT PARTS LOCATION GUIDE <DV MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1001	A	C	6B
C1002	A	C	5B
C1003	A	C	6A
C1004	B	C	6A
C1005	A	C	6A
C1006	A	C	6A
C1007	A	C	6A
C1008	A	C	5B
C1009	A	C	1B
C1010	B	C	1B
C1012	B	C	5B
C1013	A	C	5B
C1014	A	C	5B
C1015	B	C	5B
C1017	B	C	5A
C1019	A	C	7B
C1021	A	C	2D
C1022	B	C	5B
C1023	A	C	1E
C1024	A	C	5B
C1025	B	C	1E
C1026	A	C	1E
C1027	A	C	1C
C1028	B	C	1C
C1030	B	C	6B
C1035	A	C	1B
C1036	B	C	1B
C1040	B	C	5G
C1101	A	C	7B
C1105	A	C	6B
C1106	A	C	6A
C1107	A	C	6A
C1108	A	C	6B
C1401	A	C	3C
C1402	A	C	3C
C1403	B	C	3C
C1404	B	C	5C
C1405	A	C	4B
C1406	A	C	4C
C1407	A	C	4C
C1408	A	C	4D
C1409	A	C	4C
C1410	A	C	4C
C1411	A	C	5C
C1412	A	C	4C
C1413	A	C	4C
C1414	A	C	4C
C1415	A	C	3C
C1416	A	C	4C
C2101	A	C	4B
C2102	A	C	4B
C2103	B	C	4A
C2104	B	C	4A
C2105	A	C	4A
C2106	B	C	4A
C2107	B	C	4A
C2108	B	C	4A
C2109	B	C	4B
C2110	B	C	4B
C2111	B	C	4B
C2112	A	C	4B
C2113	A	C	4B
C2114	A	C	4B
C2115	A	C	4B
C2116	A	C	3B
C2117	A	C	3B
C2118	B	C	3A
C2119	A	C	3B
C2120	A	C	4A
C2122	A	C	4A
C2124	B	C	3A
C2125	B	C	3A
C2126	B	C	3A
C2127	B	C	3A
C2128	B	C	4A
C2129	A	C	3A
C2130	A	C	3A
C2131	B	C	4A
C3001	A	C	4F

REF.NO.	LOCATION		
C3002	A	C	4F
C3003	B	C	3F
C3004	B	C	3F
C3005	B	C	3F
C3006	A	C	4E
C3007	A	C	4E
C3008	B	C	3F
C3009	A	C	3E
C3010	A	C	4F
C3011	A	C	4F
C3012	A	C	4F
C3013	B	C	3F
C3014	A	C	3F
C3016	A	C	4D
C3017	A	C	4D
C3018	A	C	4D
C3019	B	C	3D
C3020	A	C	3D
C3021	A	C	4E
C3023	A	C	5H
C3024	A	C	4H
C3025	A	C	4H
C3026	A	C	4H
C3027	A	C	4G
C3028	A	C	4F
C3029	A	C	4F
C3030	A	C	4G
C3031	B	C	4G
C3032	A	C	4G
C3033	A	C	4G
C3034	A	C	3G
C3035	A	C	3G
C3036	A	C	4F
C3037	A	C	4G
C3038	A	C	4H
C3039	A	C	4H
C3040	A	C	4G
C3041	A	C	4G
C3201	A	C	6F
C3202	A	C	6F
C3203	A	C	6F
C3204	B	C	6F
C3205	A	C	6G
C3206	A	C	6F
C3207	A	C	6F
C3208	A	C	6F
C3209	A	C	5G
C3210	A	C	5F
C3211	A	C	5G
C3212	A	C	5F
C3213	A	C	6F
C3214	A	C	5F
C3215	A	C	5F
C3216	A	C	6E
C3217	A	C	6E
C3218	A	C	7E
C3219	B	C	7E
C3220	A	C	6E
C3221	A	C	6F
C3222	A	C	6F
C3223	B	C	6F
C3224	B	C	6F
C3225	A	C	6F
C3226	A	C	6F
C3227	B	C	7F
C3228	A	C	6F
C3229	A	C	6F
C3230	A	C	6F
C3231	B	C	6F
C3232	A	C	6F
C3233	A	C	6F
C3234	A	C	6F
C3235	A	C	5F
C3236	B	C	5F
C3238	B	C	5E
C3239	B	C	5E
C3240	A	C	7F
C3241	A	C	7F
C3242	B	C	7E
C3243	B	C	7E

REF.NO.	LOCATION		
C3244	B	C	7E
C3245	B	C	7E
C3246	B	C	7E
C3247	B	C	7F
C3248	B	C	6F
C3249	A	C	6E
C3250	A	C	6E
C3251	A	C	6G
C3252	A	C	6E
C3253	A	C	7G
C3254	A	C	6F
C3255	A	C	7G
C3256	A	C	5E
C3257	B	C	6G
C3258	B	C	6G
C3259	B	C	6G
C3260	B	C	5G
C3261	B	C	5G
C3262	B	C	1E
C3263	B	C	1E
C3264	B	C	1E
C3265	A	C	6E
C3266	B	C	1E
C3267	B	C	1F
C3268	B	C	1F
C3269	A	C	1E
C3272	B	C	1E
C3273	A	C	1F
C3274	A	C	1F
C3275	A	C	2F
C3276	A	C	2E
C3277	A	C	2F
C3278	A	C	2F
C3279	A	C	2F
C3280	A	C	2F
C3281	A	C	1F
C3282	A	C	2E
C3283	A	C	2F
C3284	B	C	2F
C3285	B	C	2E
C3286	B	C	2E
C3287	A	C	2F
C3288	B	C	2E
C3289	B	C	2E
C3290	B	C	2E
C3291	B	C	2E
C3292	B	C	2E
C3293	B	C	2F
C3294	A	C	2F
C3295	A	C	2F
C3296	B	C	6F
C3297	A	C	2F
C3298	B	C	2F
C3299	B	C	6F
C3301	B	C	1H
C3302	B	C	1H
C3303	B	C	1H
C3304	A	C	2H
C3305	A	C	1H
C3306	B	C	2H
C3307	B	C	2H
C3310	A	C	3G
C3311	A	C	3H
C3312	B	C	3G
C3351	A	C	3G
C3352	A	C	3H
C3353	B	C	3G
C3354	A	C	3H
C3355	B	C	3H
C3356	B	C	3H
C3357	A	C	3H
C3358	A	C	3H
C3359	B	C	3H
C3360	B	C	3H
C3361	B	C	3H
C3362	B	C	3H
C3363	A	C	3H
C3364	B	C	2H
C3365	A	C	3H
C3366	A	C	3H

REF.NO.	LOCATION		
C3367	B	C	2H
C3368	B	C	2H
C3369	B	C	3H
C3370	B	C	3G
C3371	A	C	3H
C3372	B	C	3G
C3373	A	C	3G
C3374	B	C	3F
C3402	A	C	1G
C3403	A	C	2G
C3404	A	C	2G
C3405	A	C	2G
C3406	A	C	2F
C3407	A	C	2F
C3408	B	C	1G
C3409	A	C	1F
C3410	B	C	1G
C3411	B	C	1F
C3412	B	C	1F
C3413	B	C	1F
C3414	B	C	1F
C3415	A	C	1E
C3419	A	C	2F
C3420	A	C	1F
C3421	A	C	1E
C3422	A	C	1E
C3423	A	C	2F
C3424	A	C	1F
C3425	A	C	1F
C3426	A	C	1F
C3427	A	C	1F
C3428	A	C	1F
C3429	A	C	2F
C3430	A	C	1H
C3431	A	C	2F
C3432	A	C	2G
C3433	A	C	3H
C3434	A	C	2G
C3435	A	C	2G
C3436	B	C	1G
C3437	A	C	2G
C3438	A	C	1G
C3439	A	C	1F
C3440	A	C	1F
C3441	A	C	1F
C3442	A	C	1F
C3443	A	C	1F
C3444	A	C	1F
C3445	A	C	1F
C3446	A	C	1F
C3501	A	C	2D
C3502	A	C	2C
C3503	A	C	2C
C3504	B	C	2D
C3505	B	C	2D
C3506	B	C	2D
C3507	A	C	2D
C3508	B	C	2D
C3509	A	C	2D
C3510	A	C	2D
C3511	A	C	2D
C3512	B	C	2D
C3513	B	C	2D
C3514	A	C	2D
C3515	B	C	2D
C3516	B	C	2D
C3517	B	C	2D
C3518	A	C	2D
C3519	B	C	3D
C3520	B	C	3D
C3521	A	C	2C
C3522	A	C	3D
C3523	B	C	3D
C3524	B	C	3D
C3525	B	C	3D
C3526	B	C	3D
C3527	B	C	3D
C3528	A	C	2D
C3529	A	C	3D
C3531	A	C	2D

REF.NO.	LOCATION		
C3532	A	C	2D
C3533	A	C	3D
C3534	A	C	3D
C3537	A	C	2D
C3538	B	C	2E
C3539	B	C	2E
C3540	B	C	2E
C3541	B	C	2E
C3542	A	C	2D
C3543	B	C	2E
C3544	B	C	2E
C3545	A	C	2E
C3546	A	C	3E
C3547	A	C	3D
C3579	A	C	2C
C3580	A	C	2C
C3581	A	C	2C
C3582	A	C	2C
C3583	A	C	2B
C3584	A	C	2B
C3701	B	C	2B
C3702	A	C	2B
C3703	B	C	2A
C3704	A	C	2A
C3705	B	C	2A
C3706	A	C	2A
C3707	B	C	2A
C3708	B	C	2A
C3709	B	C	2A
C3710	B	C	2A
C3711	B	C	2A
C3712	B	C	2A
C3713	A	C	2A
C3714	B	C	1B
C3715	A	C	1B
C3717	B	C	1A
C3718	B	C	1A
C3719	B	C	1B
C3720	B	C	1B
C3721	B	C	1B
C3722	B	C	1B
C4202	A	C	6C
C4203	A	C	6C
C4204	A	C	7D
C4205	A	C	6D
C4206	A	C	6D
C4207	A	C	6D
C4208	A	C	5D
C4209	A	C	5C
C4210	A	C	5C
C4301	B	C	7D
C4302	A	C	7D
C4303	A	C	6C
C4304	A	C	6C
C4310	A	C	5C
C4311	A	C	5C
C4312	A	C	5D
C4313	A	C	6C
C4314	A	C	5C
C4315	B	C	6C
C4316	A	C	7C
C4317	A	C	7D
C4318	B	C	6D
C4321	B	C	7C
C4322	A	C	7C
C4323	A	C	7C
C4324	B	C	7D
C4325	A	C	7D
C4326	A	C	7D
C8001	A	C	6G
C8002	B	C	6G
C8003	A	C	7H
C8004	B	C	7H
C8005	A	C	5G
C8006	A	C	5H
C8007	A	C	5G
C8008	A	C	6G
C8009	A	C	6G
C8010	A	C	6G
C8011	A	C	6G

REF.NO.	LOCATION		
C8012	A	C	5H
C8013	A	C	5H
C8014	A	C	6H
C8015	B	C	6H
C8016	A	C	6H
C8017	A	C	6H
C8018	B	C	6H
C8019	B	C	6H
C8020	B	C	6H
C8021	A	C	6H
C8022	A	C	6H
CONNECTOR			
CN1001	A	C	5A
CN1002	A	C	1C
CN1004	A	C	2G
CN1401	A	C	7B
CN1402	A	C	2C
CN2101	A	C	1B
CN3501	A	C	2D
CN3701	A	C	1A
CN8001	A	C	7H
DIODE			
D1001	A	C	6B
D1002	A	C	5A
D1004	B	C	5A
D3201	A	C	2F
D3202	B	C	6F
D3701	A	C	2A
D3702	A	C	2A
IC			
IC1001	B	C	6B
IC1002	B	C	6A
IC1003	B	C	5B
IC1004	B	C	5B
IC1005	A	C	5A
IC1007	B	C	5A
IC1012	A	C	7B
IC1401	B	C	4C
IC1402	A	C	4C
IC2101	B	C	4A
IC2102	B	C	3A
IC3001	B	C	4F
IC3002	B	C	4D
IC3003	B	C	4G
IC3004	B	C	3G
IC3005	A	C	4G
IC3201	B	C	6F
IC3202	B	C	6E
IC3203	B	C	2F
IC3204	B	C	1E
IC3205	B	C	2F
IC3206	B	C	2E
IC3207	B	C	6F
IC3302	A	C	3G
IC3303	B	C	2F
IC3351	B	C	3H
IC3401	B	C	2G
IC3402	B	C	1F
IC3403	B	C	1F
IC3404	A	C	1E
IC3405	A	C	1E
IC3406	A	C	1E
IC3407	B	C	1F
IC3408	B	C	1F
IC3501	B	C	2D
IC3503	B	C	2C
IC3701	A	C	2A
IC3702	B	C	2A
IC4301	B	C	6C
IC4302	A	C	6C
IC4303	A	C	7C
IC4304	A	C	7D
IC4305	A	C	7D
IC4306	A	C	7D
IC8001	B	C	6G

REF.NO.	LOCATION		
COIL			
L1002	A	C	4A
L1005	A	C	6A
L1011	A	C	1C
L1012	A	C	1C
L1013	A	C	1D
L1014	A	C	1D
L1016	A	C	1D
L1401	A	C	3C
L2101	A	C	4B
L2102	A	C	3B
L3001	A	C	3E
L3002	A	C	3F
L3003	A	C	3D
L3005	A	C	5H
L3006	A	C	4H
L3007	A	C	4G
L3009	A	C	4F
L3010	A	C	4G
L3011	A	C	4G
L3201	A	C	6G
L3202	A	C	6F
L3203	A	C	7G
L3204	A	C	7G
L3205	A	C	6F
L3206	A	C	5F
L3207	A	C	7E
L3208	A	C	7E
L3209	A	C	7F
L3210	A	C	1E
L3211	A	C	2E
L3212	A	C	2F
L3213	A	C	6E
L3301	A	C	2H
L3302	A	C	2H
L3303	A	C	3H
L3304	A	C	2H
L3401	A	C	1G
L3402	A	C	1G
L3405	A	C	1F
L3406	A	C	1F
L3407	A	C	1G
L3408	A	C	1F
L3409	A	C	1F
L3410	A	C	1F
L3411	A	C	1F
L3501	A	C	2D
L3502	B	C	3D
L3511	A	C	2C
L3512	A	C	2C
L3513	A	C	3D
L3701	A	C	2B
L8001	A	C	6G
L8002	A	C	6H
L8003	A	C	6H
L8004	A	C	6H
TRANSISTOR			
Q1001	B	C	7A
Q1002	A	C	5A
Q1003	B	C	5A
Q1004	B	C	1C
Q1005	B	C	1D
Q1006	B	C	1C
Q1007	B	C	1C
Q1008	B	C	5F
Q1009	B	C	5A
Q1010	B	C	1E
Q1011	B	C	1D
Q1012	B	C	1D
Q1013	B	C	1D
Q1401	A	C	4C
Q1402	A	C	4C
Q1403	A	C	3D
Q1404	A	C	3D
Q1405	A	C	3D
Q2102	B	C	3A
Q3201	A	C	6F
Q3202	B	C	6F
Q3204	B	C	6F

REF.NO.	LOCATION		
Q3205	B	C	1E
Q3206	B	C	6F
Q3301	B	C	1H
Q3302	B	C	1H
Q3303	B	C	1H
Q3304	B	C	1H
Q3305	B	C	1H
Q3306	B	C	1H
Q3307	B	C	2H
Q3308	B	C	2H
Q3401	B	C	1G
Q3402	B	C	1G
Q3403	B	C	1G
Q3404	B	C	1G
Q3405	B	C	1G
Q3406	B	C	1G
Q3407	B	C	1G
Q3408	B	C	1G
Q3409	B	C	1G
Q3412	A	C	1F
Q3413	A	C	1F
Q3414	B	C	1F
Q3415	B	C	1F
Q3416	B	C	1F
Q3417	A	C	1F
Q3420	B	C	1F
Q3421	A	C	1E
Q3422	A	C	1E
Q3501	A	C	2D
Q3502	A	C	2D
Q3503	A	C	2D
Q3504	A	C	2E
Q3511	A	C	2E
Q3512	A	C	2E
Q3513	B	C	2E
Q3701	B	C	2A
Q3702	B	C	1B
Q3703	B	C	1B
Q4301	B	C	7C
Q4302	B	C	7C
Q4303	B	C	7C
Q4304	B	C	7C
RESISTOR			
R1001	A	C	6B
R1002	A	C	6B
R1003	B	C	5B
R1004	B	C	5B
R1007	A	C	6B
R1010	A	C	6B
R1013	A	C	6A
R1014	A	C	6B
R1015	B	C	7B
R1016	B	C	7B
R1017	A	C	6B
R1018	A	C	7B
R1020	B	C	7B
R1022	A	C	6B
R1025	B	C	5A
R1026	B	C	5A
R1027	A	C	6B
R1028	A	C	7B
R1029	B	C	6A
R1030	B	C	6A
R1031	B	C	5A
R1032	B	C	1C
R1033	B	C	1D
R1034	B	C	1C
R1035	B	C	1C
R1037	A	C	6B
R1038	A	C	6B
R1040	B	C	1D
R1041	B	C	1D
R1042	B	C	7A
R1043	A	C	7A
R1044	A	C	5B
R1045	A	C	5B
R1046	B	C	1D
R1047	B	C	1D
R1048	B	C	6A
R1049	B	C	6A

REF.NO.	LOCATION		
R1050	B	C	5B
R1051	A	C	5A
R1052	B	C	5A
R1053	B	C	5A
R1054	B	C	5A
R1062	B	C	5A
R1064	A	C	5G
R1065	B	C	5F
R1066	B	C	5G
R1067	B	C	5G
R1068	A	C	6A
R1069	A	C	6A
R1401	B	C	4D
R1402	B	C	4D
R1403	A	C	4C
R1404	A	C	4C
R1405	A	C	4D
R1406	A	C	4C
R1407	A	C	4C
R1408	B	C	5C
R1409	B	C	5C
R1410	B	C	4D
R1411	A	C	5C
R1412	A	C	4C
R1413	A	C	4C
R1414	A	C	4C
R1415	B	C	5C
R1416	B	C	5C
R1417	A	C	4B
R1418	B	C	3B
R1419	B	C	4B
R1420	B	C	4C
R1421	B	C	5D
R1422	B	C	5D
R1423	B	C	5D
R1424	B	C	5D
R1425	A	C	4B
R1426	A	C	4B
R1427	A	C	4B
R1428	A	C	4B
R1429	B	C	3D
R1430	B	C	3D
R1431	A	C	4C
R1432	A	C	4C
R1433	A	C	4C
R1434	A	C	4C
R1438	A	C	4D
R1439	A	C	4C
R1440	A	C	2B
R1450	A	C	3D
R1451	A	C	3D
R2101	B	C	4A
R2102	B	C	4A
R2103	B	C	4A
R2104	B	C	4A
R2105	B	C	4A
R2106	B	C	4A
R2107	B	C	4A
R2108	B	C	4A
R2109	B	C	4A
R2110	B	C	3A
R2111	B	C	3A
R2112	A	C	4A
R2114	B	C	3A
R2115	B	C	3A
R2116	B	C	3A
R2117	A	C	4A
R2118	B	C	3A
R2119	B	C	3A
R2121	B	C	3A
R2123	B	C	3A
R2124	B	C	3A
R2125	B	C	3A
R2126	B	C	3A
R2127	B	C	3A
R2128	B	C	3A
R2130	B	C	3A
R2134	A	C	1A
R2135	A	C	1A
R2136	B	C	4A

REF.NO.	LOCATION		
R2137	B	C	4A
R3001	A	C	3F
R3002	A	C	4F
R3003	A	C	4F
R3004	B	C	3F
R3005	A	C	4F
R3006	B	C	4D
R3007	B	C	4E
R3008	A	C	4E
R3009	A	C	4E
R3010	A	C	4E
R3011	A	C	4E
R3012	B	C	4E
R3013	B	C	4H
R3014	B	C	4H
R3015	A	C	5G
R3016	B	C	4G
R3017	B	C	5G
R3018	B	C	4G
R3019	B	C	4G
R3020	A	C	4G
R3021	A	C	4G
R3022	B	C	4G
R3023	A	C	4G
R3201	A	C	6G
R3202	A	C	6G
R3203	A	C	6G
R3204	A	C	6F
R3205	A	C	6F
R3206	A	C	6F
R3207	A	C	6G
R3208	A	C	6F
R3209	B	C	6G
R3210	A	C	6G
R3211	A	C	5F
R3212	A	C	5F
R3213	A	C	5F
R3214	A	C	5F
R3215	A	C	5F
R3216	A	C	5F
R3217	A	C	6F
R3218	B	C	6F
R3219	B	C	6F
R3220	A	C	6F
R3221	A	C	6F
R3222	B	C	6F
R3223	B	C	6F
R3224	B	C	6F
R3225	A	C	6F
R3226	A	C	5F
R3227	B	C	5F
R3228	B	C	5F
R3229	B	C	5F
R3230	B	C	5E
R3231	A	C	5F
R3232	A	C	6F
R3233	A	C	6E
R3234	A	C	6E
R3235	A	C	6E
R3236	A	C	6E
R3237	A	C	6E
R3238	A	C	5G
R3241	B	C	6F
R3242	B	C	6F
R3243	B	C	6F
R3245	A	C	6E
R3246	A	C	6E
R3247	B	C	6F
R3250	B	C	5E
R3251	A	C	6D
R3252	B	C	6F
R3253	A	C	5G
R3254	A	C	6F
R3255	B	C	6F
R3256	B	C	6G
R3257	B	C	6G
R3258	A	C	5G
R3259	B	C	5G
R3260	B	C	5F
R3261	B	C	5F

REF.NO.	LOCATION		
R3262	B	C	1E
R3263	B	C	1E
R3264	B	C	1E
R3265	B	C	1E
R3266	B	C	1E
R3267	B	C	1E
R3268	B	C	1E
R3269	B	C	1F
R3270	B	C	2E
R3271	A	C	1F
R3272	A	C	2F
R3273	A	C	2F
R3274	A	C	2F
R3275	A	C	2F
R3276	B	C	2F
R3277	A	C	2F
R3278	B	C	2F
R3279	B	C	3F
R3280	B	C	2F
R3281	B	C	2F
R3282	B	C	2F
R3283	B	C	2F
R3284	B	C	2E
R3285	B	C	2E
R3286	B	C	2E
R3287	B	C	2E
R3288	B	C	2F
R3289	B	C	3F
R3290	A	C	2F
R3301	B	C	1H
R3302	B	C	1H
R3305	B	C	1H
R3306	B	C	1H
R3307	B	C	1H
R3308	B	C	1H
R3309	B	C	1H
R3310	B	C	1H
R3311	B	C	1H
R3312	B	C	1H
R3313	B	C	1H
R3314	B	C	1H
R3315	B	C	2H
R3316	B	C	2H
R3317	B	C	2H
R3318	B	C	1G
R3322	B	C	1H
R3324	A	C	3G
R3325	A	C	3H
R3351	B	C	3G
R3352	B	C	3G
R3353	B	C	3H
R3354	A	C	3G
R3355	B	C	3H
R3356	B	C	3H
R3357	B	C	3H
R3358	B	C	3H
R3363	A	C	3H
R3364	B	C	2H
R3365	B	C	2H
R3366	B	C	3H
R3367	B	C	3H
R3368	B	C	3G
R3369	A	C	3G
R3370	A	C	3H
R3371	A	C	3G
R3372	A	C	3G
R3401	A	C	1G
R3402	A	C	2G
R3403	B	C	1G
R3404	B	C	1G
R3405	B	C	1G
R3406	B	C	1G
R3407	B	C	1G
R3408	B	C	1G
R3409	B	C	1G
R3410	B	C	1G
R3411	B	C	1G
R3412	B	C	1G
R3413	B	C	1G
R3414	B	C	1G

REF.NO.	LOCATION		
R3415	B	C	1G
R3416	B	C	1G
R3417	B	C	1G
R3418	A	C	1F
R3420	B	C	1F
R3421	A	C	2E
R3422	A	C	1E
R3423	A	C	1E
R3430	A	C	1F
R3431	A	C	1F
R3432	A	C	1F
R3433	A	C	2F
R3434	A	C	2F
R3435	A	C	1F
R3436	A	C	2F
R3437	A	C	1F
R3438	A	C	1F
R3439	A	C	1F
R3440	B	C	1F
R3441	B	C	1F
R3442	B	C	1F
R3443	B	C	1F
R3444	A	C	1F
R3445	B	C	1F
R3446	B	C	1F
R3447	A	C	1F
R3448	A	C	1F
R3449	A	C	2F
R3451	A	C	2F
R3452	A	C	2F
R3453	A	C	2F
R3454	A	C	2F
R3455	A	C	2F
R3456	A	C	2F
R3457	A	C	2F
R3458	A	C	2F
R3459	A	C	2F
R3460	A	C	2F
R3461	A	C	2F
R3462	A	C	2F
R3463	A	C	2F
R3464	A	C	2F
R3465	A	C	2G
R3466	A	C	2F
R3467	A	C	2G
R3468	A	C	2G
R3469	A	C	2G
R3470	A	C	2G
R3471	A	C	2G
R3472	A	C	2G
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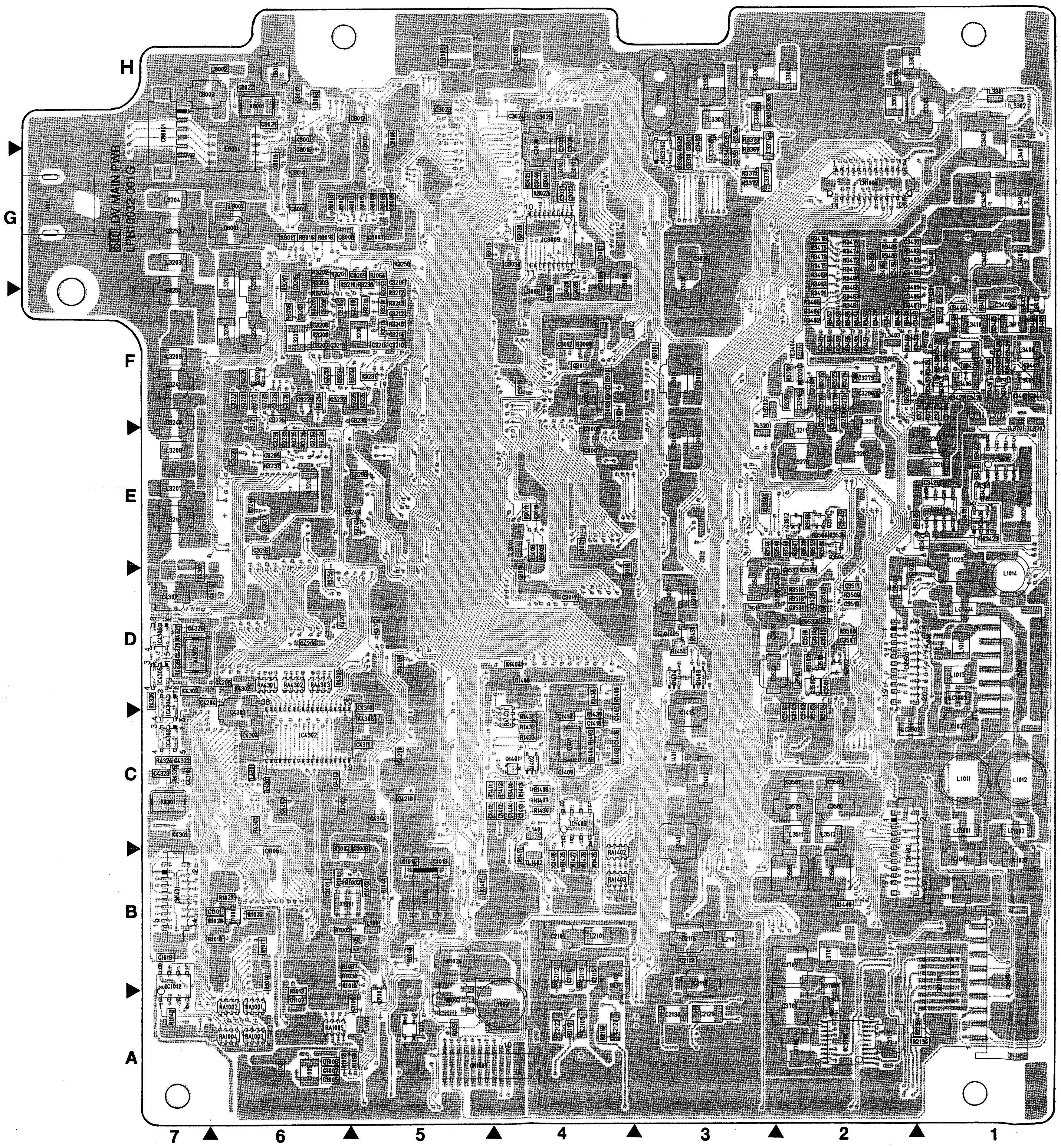
R3477	A	C	2G
R3485	A	C	2G
R3486	A	C	2G
R3488	B	C	1G
R3491	A	C	2F
R3502	A	C	2D
R3503	A	C	2C
R3504	A	C	2C
R3505	A	C	2D
R3507	B	C	2D
R3508	A	C	2D
R3509	A	C	2D
R3510	B	C	2D
R3511	B	C	2D
R3512	B	C	2D
R3513	B	C	2D
R3514	B	C	2D
R3515	B	C	3D
R3516	A	C	2D
R3517	B	C	3D
R3518	A	C	2D
R3519	B	C	3D
R3520	B	C	3D
R3521	B	C	3D
R3522	B	C	3D
R3523	B	C	3E

REF.NO.	LOCATION		
R3524	B	C	3E
R3525	B	C	3E
R3526	B	C	2E
R3527	A	C	2E
R3528	A	C	2E
R3529	A	C	2D
R3530	B	C	2E
R3533	A	C	2E
R3534	A	C	2E
R3535	A	C	2E
R3536	B	C	2E
R3537	B	C	2E
R3538	B	C	2E
R3539	B	C	2E
R3540	A	C	2E
R3541	A	C	3E
R3564	B	C	2E
R3565	A	C	2E
R3566	A	C	2E
R3567	B	C	2E
R3568	B	C	2E
R3569	B	C	2E
R3701	B	C	2A
R3702	B	C	2A
R3703	B	C	2A
R3704	B	C	2A
R3705	B	C	2A
R3706	B	C	2A
R3707	B	C	2A
R3708	B	C	2A
R3709	B	C	1B
R3710	B	C	1B
R3711	B	C	1B
R3712	B	C	1B
R3713	B	C	1B
R3714	B	C	1B
R3715	B	C	1B
R3716	B	C	1B
R3717	B	C	1A
R3718	B	C	1A
R4301	A	C	6C
R4302	B	C	5C
R4303	A	C	6D
R4321	B	C	7C
R4322	B	C	7C
R4323	B	C	7C
R4324	A	C	7C
R4325	A	C	7C
R4326	A	C	7D
R4327	A	C	7D
R4328	A	C	7D
R4329	B	C	7D
R4331	B	C	7C
R4332	B	C	7D
R8001	B	C	5G
R8002	B	C	5G
R8003	B	C	5G
R8004	B	C	5G
R8005	B	C	5G
R8006	B	C	5G
R8008	A	C	5G
R8009	A	C	5G
R8010	A	C	5G
R8011	A	C	6G
R8012	A	C	6G
R8013	A	C	6G
R8015	A	C	6G
R8016	A	C	6G
R8017	A	C	6G
R8018	B	C	6G
R8019	B	C	6G
R8023	B	C	6G
R8024	B	C	6G
R8025	B	C	6G
R8026	B	C	6H
R8031	B	C	6H
R8032	B	C	6H
R8033	B	C	6H
R8034	B	C	6H
R8035	B	C	6H

REF.NO.	LOCATION		
R8036	B	C	6H
R8037	B	C	6H
R8038	B	C	6H
RA1001	A	C	6A
RA1002	A	C	6A
RA1003	A	C	6A
RA1004	A	C	6A
RA1005	A	C	6A
RA1401	A	C	4C
RA1402	A	C	4B
RA1403	A	C	4B
RA4301	A	C	6D
RA4302	A	C	6D
RA4303	A	C	6D
OTHER			
CF3201	B	C	1E
CF3301	B	C	2H
K1001	B	C	5A
K1002	A	C	6B
K1401	A	C	5B
K1402	B	C	3D
K1403	A	C	4C
K1404	A	C	4D
K3201	B	C	6G
K4301	A	C	7C
K4302	A	C	6D
K4303	A	C	7D
K4304	B	C	7C
K4305	B	C	7D
K4306	A	C	5C
K4307	A	C	7D
K4308	B	C	7D
K8001	A	C	6H
LC1001	A	C	1C
LC1002	A	C	1C
LC1003	A	C	1D
LC1004	A	C	1D
LC1006	A	C	1D
LC3501	A	C	2D
LC3502	A	C	2C
TL1001	A	C	5B
TL1002	A	C	5A
TL1401	A	C	4C
TL1402	A	C	4B
TL3001	A	C	4E
TL3002	A	C	4F
TL3003	A	C	4F
TL3201	A	C	3E
TL3202	A	C	3F
TL3301	A	C	1H
TL3302	A	C	1H
TL3401	A	C	1F
TL3402	A	C	1F
TL3403	A	C	2F
TL3404	A	C	2F
TL3501	A	C	3E
TL3701	A	C	1F
TL3702	A	C	1F
TL3703	A	C	1F
TL3704	A	C	1F
TL4301	A	C	6C
TL4302	A	C	6C
X1001	A	C	6B
X1002	A	C	5B
X1401	A	C	4C
X3001	A	C	4F
X3301	A	D	3H
X4301	A	C	7C
X4302	A	C	7D
X8001	A	C	6H

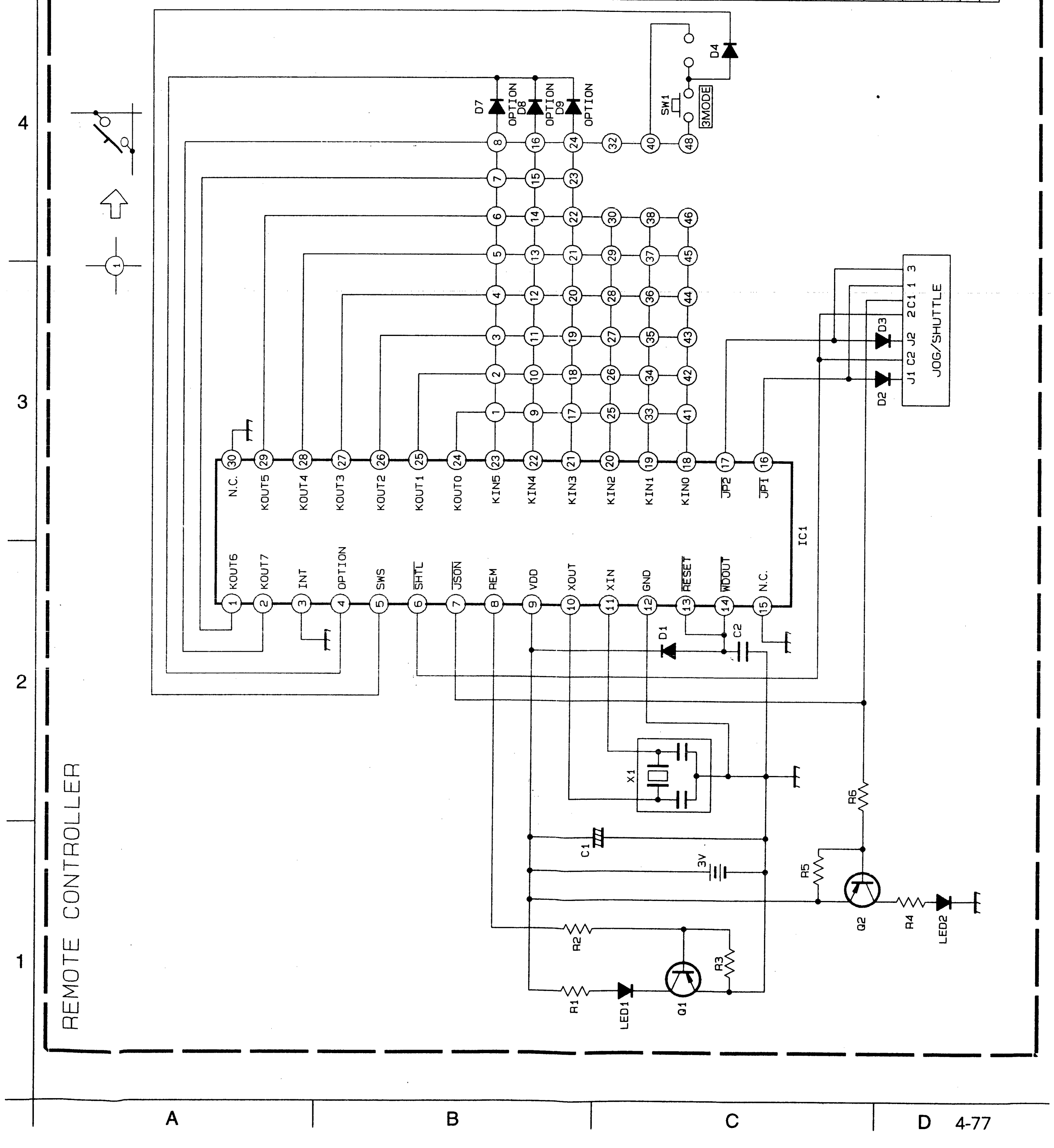
— COMPONENT SIDE (A) —


DV MAIN PWB
LPB10032-001G
H
G
F
E
D
C
B
A
7
6
5
4
3
2
1

4.34 REMOTE CONTROL SCHEMATIC DIAGRAM

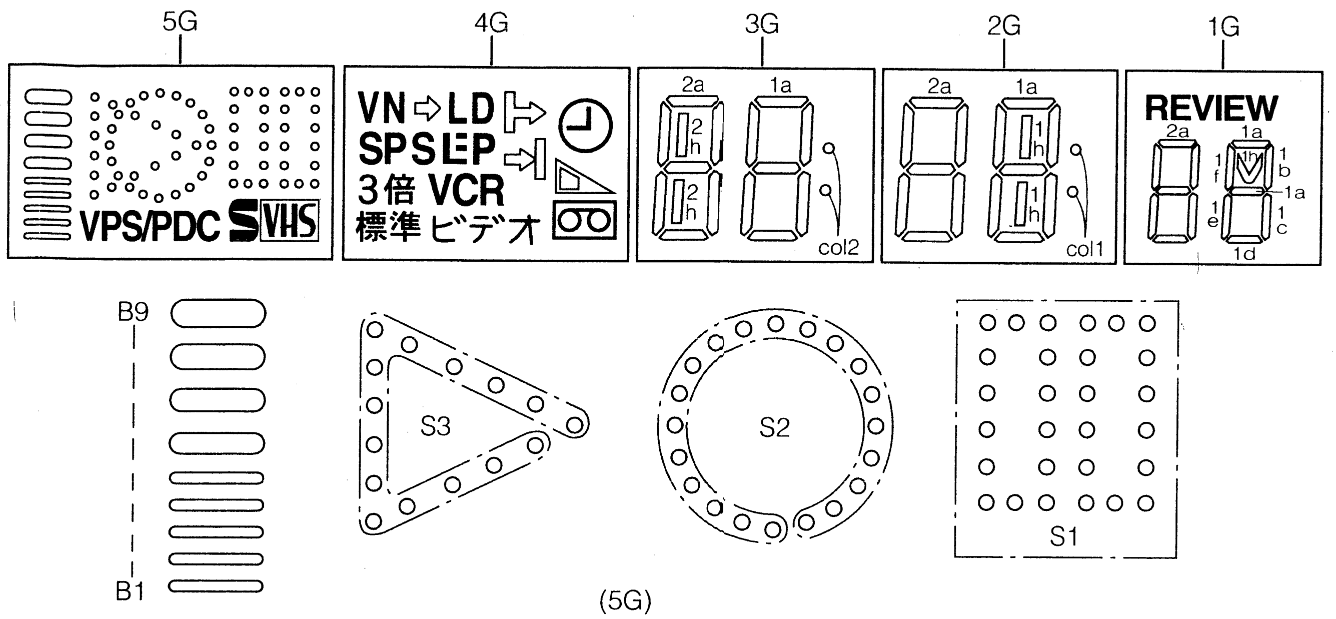
NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

Key No.	Key Name
1	POWER
2	3
3	9
4	DATE+
5	PROG(CH)−
6	PROG CHECK
7	PAUSE
8	>>/TV VOL+
9	ENTER
10	6
11	TIMER(2−)
12	PROG(CH)+
13	SKIP
14	FF
15	JOG SHUTTLE
16	RE-VIEW
17	DISPLAY
18	5
19	0
20	STOP−
21	DATE−
22	PLAY
23	Δ/TV PROG+
24	NAVIGATION
25	AUDIO/MUTE
26	2
27	8
28	STOP+
29	SP/EP(−/−−)
30	STOP
32	∇/TV PROG−
33	TV/VCR
34	1
35	7
36	START+
37	PROG
38	REC
40	OK
41	A/B
42	4
43	CANCEL(1−)
44	START−
45	REW
46	MENU
48	<</TV VOL−
38+22	REC START
38+7	REC PAUSE


5
4
3
2
1
A
B
C
D
REMOTE CONTROLLER
IC1
N.C.
KOUT5
KOUT4
KOUT3
KOUT2
KOUT1
KOUT0
KIN5
KIN4
KIN3
KIN2
KIN1
KIN0
JP2
JP1
KOUT6
KOUT7
INT
OPTION
SWS
SHTL
JSON
REM
VDD
XOUT
XIN
GND
RESET
WDOUT
N.C.
D1
D2
D3
D4
D7
D8
D9
OPTION
SW1
3MODE
JOG/SHUTTLE
J1 C2 J2 2C1 1 3
X1
C1
C2
3V
R1
R2
R3
R4
R5
R6
Q1
Q2
LED1
LED2

4.35 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT


5G
4G
3G
2G
1G
VPS/PDC
S-VHS
VN
LD
SP
S
EP
3倍
VCR
標準
ビデオ
2a
1a
2h
1h
col2
col1
REVIEW
f
b
e
c
1d
B9
B1
S3
S2
S1
(5G)

ANODE CONNECTION

	5G	4G	3G	2G	1G
P 1	S2	↦	1a	1a	1a
P 2	S1	⇥	1b	1b	1b
P 3	S3	3倍	1f	1f	1f
P 4	VPS/PDC	標準	1g	1g	1g
P 5	S-VHS	🕒	1c	1c	1c
P 6	—	◿	1e	1e	1e
P 7	—	📼	1d	1d	1d
P 8	B9	VCR	col2	1h	1h
P 9	B8	ビデオ	2a	2a	2a
P10	B7	⇨	2b	2b	2b
P11	B6	VN	2f	2f	2f
P12	B5	LD	2g	2g	2g
P13	B4	SP	2c	2c	2c
P14	B3	S (SEP)	2e	2e	2e
P15	B2	: (SEP)	2d	2d	2d
P16	B1	LP (SEP)	2h	col1	REVIEW

4.36 VOLTAGE CHARTS

<SWITCHING REGULATOR>

MODE PIN NO.	REC	PLAY
IC5101		
1	-	-
2	-	-
3	172.9	170.8
4	-	-
5	0	0
IC5301		
1	10.4	10.4
2	0	0
3	2.4	2.4
Q5301		
E	0	0
C	10.4	10.4
B	0	0
Q5302		
E	2.2	2.2
C	0	0
B	2.2	2.2
CN5201		
1	21.3	21.3
2	0	0
3	-27.3	-27.3
4	0	0
5	0	0
6	12.1	12.1
7	0	0
8	7.3	7.3
9	-11.8	-11.8
10	6.1	6.1
11	6.1	6.1
12	4.1	4.1
13	31.6	31.6
14	42.7	42.7
15	-18.5	-18.5
16	-18.5	-18.5
17	-14.6	-14.6
18	-14.5	-14.5
19	2.2	2.2

<REGULATOR>

MODE PIN NO.	REC	PLAY
IC5321		
1	4.1	4.1
2	3.1	3.1
3	0	0
4	2.6	2.6
Q5321		
E	5.0	5.0
C	6.1	6.1
B	5.6	5.6
Q5322		
E	0	0
C	5.6	5.6
B	0.6	0.6
Q5323		
E	7.3	7.3
C	0	0
B	7.3	7.3
Q5324		
E	0	0
C	7.3	7.3
B	0	0
Q5325		
E	2.5	2.5
C	4.1	4.1
B	3.1	3.1
Q5326		
E	5.1	5.1
C	6.1	6.1
B	5.7	5.7
Q5327		
E	0	0
C	5.7	5.7
B	0.6	0.6
Q5328		
E	11.4	11.4
C	12.1	12.1
B	12.0	12.0
Q5329		
E	12.0	12.0
C	12.1	12.1
B	0	0
Q5330		
E	5.1	5.1
C	6.1	6.1
B	5.8	5.8
Q5331		
E	11.2	11.2
C	11.2	11.2
B	10.5	10.5
Q5332		
E	0	0
C	0	0
B	4.6	4.6
Q5333		
E	10.8	10.8
C	12.1	12.1
B	11.5	11.5
Q5334		
E	12.1	12.1
C	12.1	12.1
B	0.6	0.6
Q5335		
E	21.3	21.3
C	11.3	11.3
B	21.2	21.2
Q5336		
E	0	0
C	21.2	21.2
B	0	0
Q5337		
E	12.1	12.1
C	11.4	11.4
B	10.7	10.7
Q5338		
E	31.6	31.6
C	31.6	31.6
B	30.9	30.9
Q5339		
E	-14.7	-14.7
C	-14.6	-14.6
B	-13.9	-13.9
Q5340		
E	6.1	6.1
C	6.0	6.0
B	1.0	1.0
Q5341		
E	0	0
C	0	0
B	4.6	4.6
CN5301		
1	2.2	2.2
2	-14.5	-14.5
3	-14.6	-14.6
4	-18.5	-18.5
5	-18.5	-18.5
6	42.7	42.7
7	31.6	31.6
8	4.1	4.1
9	6.1	6.1
10	6.1	6.1
11	-11.8	-11.8
12	7.3	7.3
13	0	0
14	12.1	12.1
15	0	0
16	0	0
17	-27.3	-27.3
18	0	0
19	21.3	21.3
CN5321		
1	12.1	12.1
2	11.4	11.4
3	11.3	11.3
4	0	0
5	0	0
6	-18.5	-18.5
7	-27.3	-27.3
8	-14.7	-14.7
9	0	0
10	4.5	4.5
11	4.6	4.6
12	0	0
CN5322		
1	5.8	5.8
2	42.7	42.3
3	4.9	4.9
4	4.9	4.9
5	-11.9	-11.9
6	12.1	12.1
7	11.5	11.5
8	0	0
9	0	0
10	0	0
11	5.1	5.1
12	31.1	31.1
13	10.7	10.7
CN5323		
1	5.1	5.1
2	0	0
3	3.1	3.1
4	0	0
5	2.5	2.5
6	0	0
7	0	0
CN5325		
1	6.9	6.9
2	0	0
3	7.3	7.3
4	5.1	5.1
5	0	0
CN5326		
1	11.2	11.2
2	0	0

<VIDEO/N.AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.6	2.4
5	0	0
6	2.8	2.8
7	2.3	2.5
8	2.5	2.5
9	2.3	2.5
10	2.4	2.5
11	2.4	2.5
12	4.8	4.8
13	1.8	1.3
14	1.8	1.3
15	2.6	2.6
16	1.5	0.6
17	1.8	1.9
18	2.3	2.1
19	3.0	3.0
20	2.7	2.6
21	2.3	2.3
22	1.9	2.0
23	3.0	3.0
24	2.1	2.2
25	1.4	1.4
26	2.1	2.1
27	0	0
28	4.8	4.8
29	1.4	1.9
30	3.0	3.0
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	2.9	2.9
36	4.8	4.8
37	0	0.1
38	4.7	4.8
39	3.3	3.3
40	4.8	4.8
41	4.8	4.8
42	1.8	1.8
43	4.8	4.8
44	2.2	2.4
45	0	0
46	1.8	1.8
47	0	0
48	0	0
49	0	0
50	0.3	0.3
51	0.1	0.1
52	1.4	2.4
53	3.0	2.8
54	2.0	1.9
55	2.1	2.1
56	2.8	2.4
57	0	0.1
58	2.9	2.9
59	3.0	3.0
60	2.1	2.1
61	4.8	4.8
62	4.8	4.8
63	4.7	4.7
64	0	0
65	1.0	2.8
66	4.8	4.8
67	4.8	4.8
68	0	0
69	2.8	2.8
70	2.9	2.9
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.6	1.1
75	-	-
76	2.4	0
77	4.8	4.8
78	2.8	2.8
79	4.0	0
80	0	0
81	-	-
82	1.2	1.1
83	2.4	3.3
84	0	1.9
85	0	0
86	2.2	0
87	2.3	2.1
88	2.3	2.1
89	2.3	2.2
90	4.8	4.8
91	0	0
92	0	0
93	0	0
94	0	0
95	2.9	0.3
96	4.8	4.8
97	0	0
98	4.8	4.8
99	0.6	2.5
100	2.5	2.5
IC2		
1	4.6	2.7
2	0	0
3	2.7	2.7
4	4.8	0
5	2.7	2.7
6	4.8	4.8
7	1.9	1.9
8	0	0
Q1		
E	3.3	3.3
C	0	0
B	2.7	2.7
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.0	1.0
C	3.8	3.8
B	1.7	1.7
Q14		
E	3.2	3.2
C	4.8	4.8
B	3.8	3.8
Q15		
E	3.7	3.7
C	0	0
B	3.2	3.2
Q16		
E	4.8	4.8
C	4.8	0
B	0.2	4.9
Q17		
E	0	0
C	0	0
B	3.0	3.0
Q18		
E	0	0
C	0	0
B	3.0	3.0
Q47		
D	4.8	4.8
G	2.3	2.1
S	2.8	2.7
Q48		
D	1.8	1.8
G	0	0
S	1.1	1.1
Q49		
E	2.1	2.1
C	4.8	4.8
B	2.7	2.7
Q55		
E	0	0
C	0	0
B	3.0	3.0
Q152		
E	4.0	2.7
C	0	0
B	4.7	2.1
Q153		
E	2.1	2.1
C	4.8	4.8
B	2.7	2.7
Q401		
E	10.7	11.5
C	11.4	0
B	11.4	11.4
Q402		
E	0	0
C	0	11.4
B	4.9	0
Q403		
E	0	0
C	0	0
B	4.9	0
Q404		
E	7.7	0
C	0	0
B	7.0	0
Q405		
E	9.9	0
C	0	0
B	9.3	0
Q2001		
E	-19.5	0
C	0	0
B	-25.0	0.7
Q2002		
E	-19.5	0
C	0	0
B	-25.4	0.7
Q2003		
E	4.8	4.8
C	-25.1	4.8
B	4.9	0
Q2051		
E	0	0
C	7.9	0.2
B	0	0.2
Q2052		
E	11.4	11.4
C	11.1	0.4
B	10.6	11.4
Q2053		
E	0	0
C	0	11.4
B	4.4	0
Q2054		
E	11.1	0.6
C	11.0	0.2
B	10.4	0.6
Q2055		
E	0	0
C	0	0.3
B	4.9	0
Q2061		
E	0	0
C	7.9	0.2
B	0	0.2
Q2062		
E	11.1	0.7
C	11.0	0.2
B	10.4	0.4
Q2063		
E	0	0
C	0	0.6
B	4.9	0
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.3	2.1
6	2.3	2.1
7	2.3	2.1
8	2.3	2.1
9	2.4	0
10	2.4	0
11	2.4	0
12	0	0
13	0	0
CN101		
1	0	0
2	-	-
3	4.7	4.7
4	-	-
5	4.8	4.8
6	0	0
7	0	0
8	0	0
9	0.5	0.5
10	0	0
11	0	0
12	0	0
13	4.9	4.9
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.3	3.3
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN102		
1	1.4	1.4
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.4
8	1.9	1.9
9	1.3	2.4
10	4.9	4.9
11	2.3	2.3
12	3.0	3.0
13	0	0
14	0	0
15	2.3	2.1
16	0	0
17	4.8	4.8
18	4.7	4.7
19	4.9	4.9
20	4.9	4.9
21	2.3	2.3
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	1.8	1.8
28	0	0
29	0	0
30	0.2	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.5
7	2.5	2.5
CN2002		
1	0	0
2	0	0

<FMA>

MODE PIN NO.	REC	PLAY
IC2201		
1	2.3	2.3
2	0	0
3	2.3	2.3
4	0	0
5	0	0
6	2.4	2.4
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.4	2.4
17	0.5	0.5
18	2.4	2.4
19	2.4	2.4
20	2.4	2.4
21	2.4	0
22	2.5	0.7
23	0	0
24	2.5	0.7
25	4.8	4.8
26	2.5	0
27	0	-
28	4.1	2.8
29	4.3	1.7
30	4.4	1.6
31	1.1	1.8
32	2.4	2.4
33	2.4	2.4
34	0.8	0.8
35	2.4	2.4
36	0	0.2
37	1.6	1.6
38	0	0
39	0	0
40	4.8	4.8
41	0	0
42	4.8	0
43	4.7	4.7
44	3.3	3.3
45	0	0
46	4.7	4.7
47	2.4	2.4
48	2.4	2.4
49	0.4	0.4
50	0.2	0.2
51	0	0
52	0	0
53	4.3	4.3
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	9.6	9.6
59	4.4	0
60	0.8	0.8
61	2.4	2.4
62	2.4	2.4
63	4.2	4.2
64	4.3	4.3
IC2601		
1	0	0
2	0	0
3	0	0
4	0.2	0.2
5	0	0
6	0	0
7	-4.7	0
8	0	0
9	0	0
10	0	0
11	0.1	0.1
12	0	0
13	0	0
14	0	0
15	0	0
16	5.8	5.8
IC2602		
1	0	0
2	0	0
3	0	0
4	-11.9	-11.9
5	0	0
6	0	0
7	0	0
8	8.1	8.1
IC2604		
1	0.2	0.2
2	0	0
3	0	0
4	-12.0	-11.8
5	0	0
6	0	0
7	0.2	0.2
8	8.1	8.1
IC2605		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	8.0	8.0
7	-12.0	-11.8
8	8.1	8.1
9	8.1	8.1
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
IC2606		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	8.0	8.0
7	-11.9	-11.9
8	8.1	8.1
9	8.1	8.1
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
IC2607		
1	0	0
2	0	0
3	0	0
4	5.8	5.8
5	5.8	5.8
6	0	0
7	-4.8	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.8	5.8
IC2608		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	8.1	8.1
7	-12.0	-11.8
8	8.1	8.1
9	8.1	8.1
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
Q2151		
E	4.8	4.8
C	4.8	4.8
B	2.1	2.1
Q2152		
E	4.8	4.8
C	4.8	4.8
B	0	0
Q2201		
E	0	0
C	0	0
B	0	0
Q2202		
E	0	0
C	0	0
B	0	0
Q2203		
E	5.8	5.8
C	-0.3	-0.3
B	5.8	5.8
Q2204		
E	0	0

MODE PIN NO.	REC	PLAY
C	5.8	5.8
B	0	0
Q2253		
E	0	0
C	0	0
B	4.6	4.6
Q2255		
E	0	0
C	0	0
B	4.1	4.1
Q2256		
E	0	0
C	4.2	4.2
B	0	0
Q2258		
E	4.4	0
C	4.4	1.6
B	0.2	4.9
Q2601		
E	0	0
C	0	0
B	0	-0.6
Q2602		
E	0	0
C	0	0
B	0	-0.4
Q2603		
E	0	0
C	8.1	8.1
B	0	0
Q2604		
E	0	0
C	8.1	8.1
B	0	0
Q2605		
E	0	0
C	8.1	8.1
B	0	0
CN2601		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.5	2.5
7	0	0
8	2.5	2.5

<SYSCON>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.8	2.5
2	0	0
3	1.9	2.5
4	2.5	2.5
5	2.5	2.5
6	2.6	2.6
7	2.5	2.5
8	2.5	2.5
9	5.1	5.1
10	5.1	5.1
11	0	0
12	0.4	0.7
13	0	1.5
14	4.8	4.8
15	5.0	5.0
16	4.9	0
17	0	0
18	0	0
19	0	0
20	0.3	4.3
21	4.0	4.0
22	4.1	2.7
23	0	0
24	4.9	4.9
25	5.0	5.0
26	0	0
27	5.1	5.1
28	5.0	5.0
29	5.0	5.0
30	0.5	0.5
31	5.1	5.1
32	0	0
33	0	0
34	4.9	4.9
35	0	0
36	0	0
37	5.0	5.0
38	1.9	1.9
39	4.8	4.8
40	0	0
41	5.1	5.1
42	4.6	4.6
43	0	0
44	0	3.4
45	5.1	5.1
46	5.1	-
47	0	0
48	5.1	5.1
49	5.1	4.8
50	5.1	4.7
51	0.2	2.7
52	0.2	2.7
53	5.1	4.8
54	0.2	-
55	4.8	-
56	4.5	0
57	0	0
58	0	0
59	0.6	0.6
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	5.0	5.0
71	5.0	5.0
72	5.0	5.0
73	5.0	5.0
74	0	0
75	4.6	4.6
76	4.7	0.1
77	0	0
78	0	0
79	0	0
80	0	0
81	0	0
82	5.0	5.0
83	-	-
84	0	0
85	3.6	3.6
86	5.0	5.0
87	5.0	0
88	4.8	0
89	0	0
90	0	0
91	0	0
92	4.9	4.9
93	5.0	5.0
94	0	0
95	0	0
96	0	0
97	0.3	0.3
98	0.3	0.3
99	0	-
100	1.0	-
101	2.5	2.5
102	1.3	1.3
103	5.0	5.0
104	0	0
105	0	5.1
106	5.0	5.0
107	5.0	0
108	0.1	1.6
109	1.6	0.2
110	5.0	0
111	0	0
112	2.5	2.5
IC3002		
1	5.0	5.0
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.7	4.7
6	4.6	4.6
7	0	0
8	5.0	5.0
IC3004		
1	0	0
2	12.1	12.1
3	-	-
4	-	-
5	0	0
6	12.1	12.1
7	0	0
8	12.1	12.1
9	0	0
Q3001		
E	0	0
C	12.1	12.1
B	0	0
Q3002		
E	0	0
C	4.8	4.8
Q3003		
E	0	0
C	5.0	5.0
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.1	5.1
C	5.8	5.8
B	5.7	5.7
Q3008		
E	0	0
C	4.8	4.8
B	0	0
Q4001		
E	0	0
C	0	0
B	4.9	4.9
CN3001		
1	11.4	11.4
2	0	0
3	1.4	1.4
4	0.1	0.1
5	1.5	1.5
CN3002		
1	2.1	0
2	2.7	0
CN3003		
1	2.4	2.4
2	4.8	4.8
3	5.0	5.0
4	2.4	2.4
5	11.3	11.3
6	0	0
7	0	0
8	0	0
CN3004		
1	0	0
2	5.0	5.0
3	5.0	5.0
4	0	0
5	0	0
CN3011		
1	0	0
2	5.0	5.0
3	4.8	4.8
4	2.7	2.7
5	4.8	4.8
6	4.8	4.8
7	0	0
8	5.0	5.0
9	-18.4	-18.4
10	-14.8	-14.8
11	-27.3	-27.3

<SUB CPU>

MODE PIN NO.	REC	PLAY
IC3301		
1	0	5.0
2	5.0	5.0
3	0	0
4	0	0
5	0	0
6	0	0
7	5.0	5.0
8	4.2	4.2
9	4.1	4.1
10	0	0
11	5.0	5.0
12	0	0
13	5.0	5.0
14	0	0
15	4.9	0
16	0	0
17	-	-
18	5.0	5.0
19	5.0	5.0
20	5.0	5.0
21	5.0	5.0
22	5.0	5.0
23	5.0	5.0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	5.0	5.0
35	0	0
36	0	0
37	0	0
38	5.0	5.0
39	0	0
40	5.0	0
41	5.0	0
42	5.0	0
43	0	0
44	0	0
45	0	0
46	5.0	5.0
47	0	0
48	0	0
49	5.0	5.0
50	0	0
51	0	0
52	0	0
53	0	0
54	4.8	4.8
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	5.0	5.0
61	0	0
62	0	0
63	0	0
64	0.3	0.3
65	0	0
66	0	0
67	0	0
68	5.0	5.0
69	2.8	2.8
70	2.5	2.5
71	0	0
72	0	0
73	5.0	5.0
74	5.0	5.0
75	0	0
76	0	0
77	5.0	5.0
78	3.1	3.1
79	3.1	3.1
80	0	0
IC3302		
1	5.0	5.0
2	4.8	4.8
3	0	0
4	2.8	2.8
5	2.8	2.8
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	3.6	3.6
13	5.0	5.0
14	3.6	3.6
15	4.8	4.8
16	5.0	5.0
Q3301		
E	0	0
C	0	0
B	4.9	4.9
Q3302		
E	0	0
C	3.0	3.0
B	0	0
Q3303		
E	0	0
C	3.0	3.0
B	0	0
Q3304		
E	0	0
C	0	0
B	4.9	4.9
Q3305		
E	0	0
C	0.8	0.8
B	3.9	3.9
Q3306		
E	0	0
C	2.7	2.7
B	0.8	0.8
CN3301		
1	4.2	4.2
2	2.5	2.5
3	0	0
4	3.0	3.0
5	3.0	3.0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	10.9	10.9
2	1.6	1.6
3	1.0	1.0
4	0	0
5	4.0	4.0
6	4.0	4.0
7	4.0	0
8	11.4	11.4
Q6030		
E	0.7	0.7
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	4.6	4.6
Q6032		
E	0	0
C	0	0
B	4.6	4.6
CN6701		
1	0	0
2	4.7	4.7
3	4.6	4.6
4	4.5	4.5
5	0	0
6	0	0
7	4.0	4.0
8	0	0
9	0	0
10	2.3	2.3

<TERMINAL(MAIN)>

MODE PIN NO.	REC	PLAY
IC7501		
1	5.8	5.8
2	5.0	5.0
3	0	0
4	4.9	4.9
CN7503		
1	0	0
2	0	0
3	1.6	1.6
4	0	0
5	1.4	1.4
6	10.7	10.7
7	0.7	0.7
8	4.9	4.9
9	0	0
10	5.0	5.0
11	0	0
CN7504		
1	0	0
2	0.5	0.5
3	0	0
4	4.6	4.6
5	4.6	4.6
6	5.1	5.1
7	4.9	4.9
CN7505		
1	0	0
2	4.5	4.5
3	0	0
4	2.0	2.0
5	4.9	4.9
6	0	0
7	0	0
8	3.6	3.6
9	4.8	4.8
10	2.8	2.8
11	0	0
12	0	0
CN7506		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
CN7507		
1	0.2	0.2
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7508		
1	10.7	10.7
2	31.1	31.1
3	5.1	5.1
4	0	0
5	0	0
6	0	0
7	11.5	11.5
8	12.1	12.1
9	-11.9	-11.9
10	4.9	4.9
11	4.9	4.9
12	42.7	42.3
13	5.8	5.8
CN7509		
1	0	0
2	4.6	4.6
3	4.5	4.5
4	0	0
5	-14.7	-14.7
6	-27.3	-27.3
7	-18.5	-18.5
8	0	0
9	0	0
10	11.3	11.3
11	11.4	11.4
12	12.1	12.1

<VPS/PDC>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.5	2.5
3	0.2	0.6
4	0	0
5	4.6	4.6
6	0	0
7	4.9	4.9
8	4.9	4.9
9	3.6	3.6
10	4.7	4.7
11	2.7	2.7
12	4.9	4.9
13	2.8	2.8
14	2.8	2.8
15	0	0
16	1.2	1.2
17	0	0
18	4.9	4.9
19	2.0	2.0
20	0	0
21	0.1	0.1
22	0.1	0.1
23	4.9	4.9
24	2.9	2.9
25	2.5	2.5
26	4.9	4.9
27	4.7	4.7
28	3.5	3.5
29	4.9	4.9
30	4.9	4.9

<3D SVHS(VIDEO)>

MODE PIN NO.	REC	PLAY
IC1001		
1	3.0	3.0
2	0.3	0.3
3	2.3	2.3
4	1.8	1.8
5	2.9	2.9
6	2.8	2.8
7	2.3	2.3
8	3.0	3.0
9	2.4	2.4
10	2.9	2.9
11	2.8	2.8
12	2.2	2.2
13	4.8	4.8
14	4.8	4.8
15	2.6	2.6
16	2.9	2.9
17	0	0
18	2.8	2.8
19	0	0
20	0	0
21	2.3	2.3
22	2.8	2.8
23	2.4	2.4
24	0	0
25	3.6	3.6
26	2.1	2.1
27	2.8	2.8
28	2.8	2.8
29	2.8	2.8
30	0	0
31	2.9	2.9
32	0	0
33	2.8	2.8
34	4.9	4.9
35	2.8	2.8
36	1.8	1.8
37	3.2	3.2
38	2.9	2.9
39	2.4	2.4
40	2.7	2.7
41	2.9	2.9
42	2.8	2.8
43	3.1	3.1
44	2.3	2.3
45	0	0
46	2.8	2.8
47	1.9	1.9
48	2.8	2.8
49	4.9	4.9
50	2.8	2.8
51	4.9	4.9
52	2.8	2.8
53	1.9	1.9
54	2.7	2.7
55	0	0
56	2.4	2.4
IC1002		
1	2.0	2.0
2	0.3	4.0
3	3.2	3.2
4	3.3	3.3
5	4.9	4.9
6	2.1	2.1
7	2.0	2.0
8	4.9	4.9
9	1.5	1.5
10	2.8	2.8
11	2.8	2.8
12	2.8	2.8
13	0	0
14	2.8	2.8
15	2.8	2.8
16	1.9	1.9
17	1.9	1.9
18	1.9	1.9
IC1006		
1	0	0
2	0.3	4.0
3	0	0
4	2.7	2.7
5	0	0
6	4.1	4.1
7	0	0
8	0	0
9	4.0	4.0
10	4.9	4.9
11	2.7	2.7
12	1.5	1.5
13	0.9	0.9
14	3.2	3.2
15	3.4	0.7
16	1.3	1.3
17	4.0	4.0
18	1.1	1.1
19	4.8	4.8
20	0.7	0.7
IC1007		
1	1.1	1.1
2	2.4	2.4
3	2.5	2.5
4	0	0
5	2.3	2.3
6	2.0	2.0
7	3.7	3.7
8	4.9	4.9
Q1004		
E	0	0
C	0	0
B	0.3	4.0
Q1005		
E	0	0
C	0	0
B	2.5	2.5
Q1006		
E	4.0	4.0
C	0	0
B	3.4	3.4
Q1007		
E	1.5	1.5
C	3.4	3.4
B	2.1	2.1
Q1012		
E	2.4	2.4
C	5.0	5.0
B	3.1	3.1
Q1014		
E	0	0
C	1.3	1.3
B	0.6	0.6
Q1015		

MODE PIN NO.	REC	PLAY
E	0.7	0.7
C	3.0	3.0
B	1.3	1.3
Q1016		
E	0	0
C	0	0
B	5.0	5.0
Q1021		
E	3.1	3.1
C	0	0
B	2.4	2.4
Q1022		
E	0	0
C	4.4	0
B	0.3	4.0
CN1001		
1	0	0
2	-	-
3	4.7	4.7
4	-	-
5	4.8	4.8
6	0	0
7	0	0
8	0	0
9	0.5	0.5
10	0	0
11	0	0
12	0	0
13	4.9	4.9
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.3	3.3
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN1002		
1	1.4	1.4
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.4
8	1.9	1.9
9	1.3	2.4
10	4.9	4.9
11	2.3	2.3
12	3.0	3.0
13	0	0
14	0	0
15	2.3	2.1
16	0	0
17	4.8	4.8
18	4.7	4.7
19	4.9	4.9
20	4.9	4.9
21	2.3	2.3
22	0	0
23	2.4	2.4
24	0	0
25	0	0
26	2.3	2.3
27	1.8	1.8
28	0	0
29	0	0
30	0.2	0
CN1003		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	2.0	2.0
6	0	0
7	2.7	2.7

<3D SVHS(Y/C SEP)>

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
IC1402		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC7101		
1	1.2	1.2
2	4.8	4.8
3	1.9	1.9
4	0	0
IC7102		
1	4.7	4.7
2	0	0
3	4.8	4.8
4	4.5	4.5
5	4.8	4.8
6	10.5	10.5
7	6.3	6.3
8	0	0
IC7103		
1	1.7	1.7
2	0	0
3	1.9	1.9
4	4.5	4.5
5	1.7	1.7
6	4.9	4.9
7	2.2	2.2
8	0	0
IC7104		
1	1.8	1.8
2	0	0
3	1.8	1.8
4	0	0
5	1.9	1.9
6	4.8	4.8
7	1.0	1.0
8	0	0
IC7105		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	0	0
5	2.7	2.7
6	4.9	4.9
7	2.0	2.0
8	0	0
IC7106		
1	0.3	0.3
2	1.2	1.2
3	1.9	1.9
4	0	0
5	1.9	1.9
6	0	0
7	2.0	2.0
8	0	0
9	2.0	2.0
10	2.0	2.0
11	2.0	2.0
12	2.0	2.0
13	0	0
14	0	0
15	2.4	2.4
16	4.8	4.8
IC7107		
1	0	0
2	2.6	2.6
3	5.0	5.0
4	0	0
5	0	0
6	2.4	2.4
7	2.4	2.4
8	4.9	4.9
9	3.9	3.9
10	4.6	4.6
11	3.0	3.0
12	4.8	4.8
13	2.5	2.5
14	0	0
15	2.6	2.6
16	0.8	0.1
17	4.9	4.9
18	2.9	2.9
19	0	0
20	4.5	4.5
21	4.9	4.9
22	3.5	3.5
23	4.9	4.9
24	4.9	4.9
IC7108		
1	4.5	4.5
2	2.9	2.9
3	5.0	5.0
4	1.9	1.9
5	1.6	1.6
6	2.2	2.2
7	2.9	2.9
8	0	0
9	2.9	2.9
10	0	0
11	2.6	2.6
12	3.1	3.1
13	2.5	2.5
14	2.3	2.3
IC7110		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	0	0
5	2.7	2.7
6	4.9	4.9
7	2.0	2.0
8	0	0
IC7111		
1	3.4	3.4
2	0	0
3	3.4	3.4
4	0	0
5	4.0	3.6
6	10.7	10.7
7	2.6	2.6
8	0	0
IC7112		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	0	0
5	0	0
6	4.9	4.9
7	2.0	2.0
8	0	0
IC7113		
1	1.6	1.6
2	0	0
3	1.6	1.6
4	10.7	10.7
5	1.9	1.9
6	0	0
7	4.7	4.7
8	10.6	10.6
9	4.7	4.7
10	0	0
11	4.7	4.7
12	0	0
13	4.7	4.7
14	4.6	4.6
15	5.4	5.4
16	4.7	4.7
17	5.4	5.4
18	4.7	4.7
19	10.7	10.7
20	2.4	2.4
21	1.3	1.3
22	1.3	1.3
23	2.5	2.5
24	2.0	2.0
IC7114		
1	6.0	6.0
2	0	0
3	6.0	6.0
4	0	0
5	0	0
6	10.7	10.7
7	5.3	5.3
8	0	0
Q7101		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q7102		
E	3.5	3.5
C	4.8	4.8
B	4.2	4.2
Q7103		
E	3.1	3.1
C	4.8	4.8
B	3.8	3.8
Q7104		
E	2.9	2.9
C	0	0
B	2.3	2.3
Q7105		
E	3.2	3.2
C	4.9	4.9
B	3.9	3.9
Q7106		
E	1.2	1.2
C	4.8	4.8
B	1.9	1.9
Q7107		
E	1.2	1.2
C	4.9	4.9
B	0.5	0.5
Q7108		
E	1.5	1.5
C	0	0
B	0.8	0.8
Q7109		
E	1.1	1.1
C	4.8	4.8
B	1.7	1.7
Q7110		
E	1.1	1.1
C	4.8	4.8
B	0.5	0.5
Q7111		
E	1.4	1.4
C	0	0
B	0.8	0.8
Q7112		
E	1.4	1.4
C	4.9	4.9
B	2.0	2.0
Q7113		
E	0.6	0.6
C	0	0
B	0	0
Q7114		
E	0	0
C	0.6	0.6
B	0	0
Q7115		
E	0	0
C	0.6	0.6
B	0	0
Q7116		
E	0	0
C	1.7	1.7
B	0	0
Q7117		
E	0	0
C	0	0
B	0.8	0.8
Q7118		
E	0	0
C	2.4	2.4
B	0.4	0.4
Q7119		
E	0	0
C	0	0
B	0.8	0.8
Q7121		
E	0	0
C	0	0
B	0	0
Q7122		
E	2.6	2.6
C	0	0
B	2.0	2.0
Q7123		
E	3.1	3.1
C	4.8	4.8
B	3.7	3.7
Q7124		
E	1.7	1.7
C	0	0
B	1.0	1.0
Q7125		
E	1.1	1.1
C	4.1	4.1
B	1.6	1.6
Q7126		
E	4.7	4.7
C	2.0	2.0
B	4.1	4.1
Q7127		
E	2.6	2.6
C	0	0
B	2.0	2.0
Q7128		
E	1.8	1.8
C	4.9	4.9
B	2.4	2.4
Q7129		
E	3.4	3.4
C	4.9	4.9
B	4.0	4.0
Q7130		
E	3.2	3.2
C	0	0
B	2.6	2.6
Q7131		
E	1.8	1.8
C	0	0
B	1.1	1.1
Q7132		
E	6.0	6.0
C	10.7	10.7
B	6.7	6.7
Q7133		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q7134		
E	0.6	0.6
C	10.8	10.8
B	0	0
Q7135		
E	9.0	9.0
C	10.8	10.8
B	9.6	9.6
Q7136		
E	0.6	0.6
C	9.6	9.6
B	1.3	1.3
Q7137		
E	5.1	5.1
C	0	0
B	4.5	4.5
Q7138		
E	0	0
C	1.2	1.2
B	0.6	0.6
Q7140		
E	0	0
C	5.0	5.0
B	0	0
CN7101		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	2.0	2.0
6	0	0
7	2.7	2.7
CN7102		
1	1.3	1.3
2	0	0
3	0	0
4	1.8	1.8
5	0	0
6	2.0	2.0
7	1.2	1.2
8	0	0
9	0.2	0.2
CN7103		
1	0	0
2	0	0
3	1.6	1.6
4	0	0
5	1.4	1.4
6	10.7	10.7
7	0.7	0.7
8	4.9	4.9
9	0	0
10	5.0	5.0
11	0	0
CN7104		
1	0	0
2	0.5	0.5
3	0	0
4	4.6	4.6
5	4.6	4.6
6	5.1	5.1
7	4.9	4.9
CN7105		
1	0	0
2	4.5	4.5
3	0	0
4	2.0	2.0
5	4.9	4.9
6	0	0
7	0	0
8	3.6	3.6
9	4.8	4.8
10	2.8	2.8
11	0	0
12	0	0
CN7106		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC6701		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	3.9	3.9
13	0	0
14	0	0
15	3.2	3.2
16	2.3	2.3
17	0	0
18	1.8	1.8
19	0	0
20	0	0
21	3.9	3.9
22	0	0
23	1.8	1.8
24	1.8	1.8
25	1.8	1.8
26	3.9	3.9
27	0	0
28	4.0	4.0
29	4.7	4.7
30	4.7	4.7
31	0	0

MODE PIN NO.	REC	PLAY
32	3.9	3.9
33	3.9	3.9
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
Q6701		
E	-	-
C	-	-
B	-	-
CN6701		
1	0	0
2	4.7	4.7
3	4.6	4.6
4	4.5	4.5
5	0	0
6	0	0
7	4.0	4.0
8	0	0
9	0	0
10	2.3	2.3

<MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	1.0	1.0
3	4.9	4.9
4	1.0	1.0
5	0	0
6	4.5	4.5
7	1.0	1.0
8	0	0
9	0	0
10	0	0
11	0	0
12	6.4	6.4
13	0	0
14	0.5	0.5
15	0	0
16	0	0
17	0.5	0.5
18	4.9	4.9
19	0.5	0.5
20	4.5	4.5
21	4.6	4.6
22	4.6	4.6
23	2.5	2.5
24	2.5	2.5
25	2.5	2.5
26	2.5	2.5
27	2.5	2.5
28	2.5	2.5
29	1.5	1.5
30	2.5	2.5
31	2.5	2.5
32	2.5	2.5
33	5.0	5.0
34	0.2	0.2
35	0.6	0.6
36	0.5	0.5
37	1.2	1.2
38	1.4	1.4
39	5.0	5.0
40	0	0
41	0	0
42	3.0	3.0
43	0	0
44	3.0	3.0
45	3.0	3.0
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	1.5	1.5
54	1.5	1.5
55	0.6	0.6
56	2.8	2.8
57	2.1	2.1
58	0	0
59	0.7	0.7
60	0	0
61	2.5	2.5
62	2.7	2.7
63	2.2	2.2
64	2.5	2.5
65	2.5	2.5
66	2.5	2.5
67	2.5	2.5
68	1.5	1.5
69	0	0
70	1.0	1.0
71	1.0	1.0
72	1.0	1.0
73	1.0	1.0
74	2.5	2.5
75	2.5	2.5
76	2.5	2.5
77	0.7	0.7
78	4.5	4.5
79	4.6	4.6
80	4.5	4.5
IC1602		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
QA1601		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
Q1601		
E	-	-
C	-	-
B	-	-
Q1602		
E	-	-
C	-	-
B	-	-
Q1603		
E	-	-
C	-	-
B	-	-
Q1604		
E	-	-
C	-	-
B	-	-
Q1605		
E	-	-
C	-	-
B	-	-
CN1601		
1	4.9	4.9
2	0	0
3	6.4	6.4
4	5.0	5.0
5	0	0
CN1602		
1	1.3	0.6
2	1.3	0.6
CN1603		
1	2.5	2.5
2	2.5	2.5
3	1.0	1.0
4	1.0	1.0
5	1.0	1.0
6	1.0	1.0
7	1.0	1.0
8	1.0	1.0
9	1.0	1.0
10	2.5	2.5
11	0	0
CN1604		
1	0.6	0.6
2	0.5	0.5
3	0.6	0.6
4	0.5	0.5
5	0.5	0.5
6	0.5	0.5
7	5.0	5.0
8	2.3	2.3
9	2.5	2.5
10	2.5	2.5
11	2.5	2.5
12	2.7	2.7
13	2.5	2.5
14	2.5	2.5
15	2.5	2.5
16	2.5	2.5
17	0	0
18	2.5	2.5
CN1605		
1	3.0	3.0
2	3.0	3.0
3	0	0
4	0	0
CN1606		
1	3.0	3.0
2	3.0	3.0
3	0	0
4	0	0
5	0	0

MODE PIN NO.	REC	PLAY
6	0	0
7	0	0
8	1.3	1.3
9	1.5	1.5
10	0	0
11	3.0	3.0
12	3.0	3.0
13	3.0	3.0
14	0	0
15	0	0
16	3.0	3.0
17	1.5	1.5
18	1.5	1.5
19	2.8	2.8
20	0	0
CN1607		
1	0	0
2	0	0
3	0	0
4	0	0

<DV PRE/REC>

MODE PIN NO.	REC	PLAY
IC9001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
Q9003		
E	-	-
C	-	-
B	-	-
Q9005		
E	-	-
C	-	-
B	-	-
Q9006		
E	-	-
C	-	-
B	-	-
Q9007		
E	-	-
C	-	-
B	-	-
CN9001		
1	0	0
2	0	0
3	4.9	4.9
4	0	0
5	3.0	0
6	0	3.0
7	1.5	1.5
8	3.0	3.0
9	0	3.0
10	2.9	0
11	0	0
12	0	0
13	0	0
14	2.6	1.1
15	3.0	1.9
16	2.3	1.1
17	1.1	0
18	1.9	1.9
19	0	0
20	3.1	3.1
CN9002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-

<DISPLAY>

MODE PIN NO.	REC	PLAY
IC1251		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.7	2.7
6	2.8	2.8
7	0	0
8	4.7	4.7
9	4.7	4.7
10	0.2	0.2
11	0.2	0.8
12	0.8	1.0
13	0.7	0.9
14	4.7	4.7
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-26.7	-26.7
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	4.7	4.7
39	4.7	4.7
40	4.7	4.7
41	0.2	0.2
42	0.2	0.2
43	0	0
44	2.5	2.5
IC1252		
1	4.9	4.9
2	5.0	5.0
3	0	0
CN1252		
1	-26.7	-26.7
2	-14.5	-14.5
3	-17.8	-17.8
4	0	0
5	4.9	4.9
6	4.8	4.8
7	2.7	2.7
8	4.7	4.7
9	4.9	4.9
10	0	0
11	0	0
12	0	0
13	0	0
14	3.3	3.3
15	1.0	1.0
FW1251		
1	2.5	2.5
2	4.7	4.7

<LED2>

MODE PIN NO.	REC	PLAY
FW1261		
1	2.5	2.5
2	4.7	4.7

<DISPLAY/SW>

MODE PIN NO.	REC	PLAY
IC1201		
1	5.0	5.0
2	0	0
3	0	0
4	0	0
5	2.8	2.8
6	2.8	2.8
7	0	0
8	4.8	4.8
9	4.9	4.9
10	0	0
11	0	0
12	0	0
13	0	0
14	5.0	5.0
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-27.2	-27.2
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	5.0	5.0
39	5.0	5.0
40	5.0	5.0
41	0	0
42	0	0
43	0	0
44	2.8	2.8
CN1201		
1	-27.3	-27.3
2	-14.8	-14.8
3	-18.4	-18.4
4	5.0	5.0
5	0	0
6	4.8	4.8
7	4.8	4.8
8	2.7	2.7
9	4.8	4.8
10	5.0	5.0
11	0	0
CN1202		
1	3.4	3.1
2	-	-
3	0	0
4	0	0
5	0	0
6	0	0
7	5.1	5.1
8	4.8	4.8
9	-	2.8
10	4.9	4.9
11	5.1	5.1
12	0	0
13	-18.3	-18.3
14	-14.8	-14.8
15	-27.2	-27.2
CN1211		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0.2	0.2
FW1201		
1	3.0	3.0
2	5.1	5.1
FW1202		
1	0	0
2	0	0
3	-	-

<SW>

MODE PIN NO.	REC	PLAY
FW1212		
1	0	0
2	0	0
3	-	-

<LED1>

MODE PIN NO.	REC	PLAY
FW1211		
1	3.0	3.0
2	5.1	5.1

<DV CPU>

MODE PIN NO.	REC	PLAY
IC1001		
1	0	0
2	0	0
3	0	0
4	3.1	2.8
5	3.0	3.0
6	0	0.2
7	3.0	3.0
8	0	0
9	0	0.2
10	0	0
11	3.0	2.8
12	0	0
13	0	0.2
14	0	0
15	0	0.2
16	3.0	3.0
17	0.9	1.3
18	0	0
19	0	0
20	3.0	3.0
21	3.0	3.0
22	3.0	3.0
23	0	0
24	0	0
25	3.0	3.0
26	2.2	1.8
27	0	0
28	0	0
29	3.0	3.0
30	-	-
31	-	-
32	0	0
33	1.5	1.5
34	3.0	3.0
35	3.0	3.0
36	0	0
37	0	0
38	2.4	2.4
39	0	0
40	0	0
41	0	0
42	3.0	3.0
43	0	0
44	3.0	3.0
45	0	0
46	3.0	3.0
47	0	0
48	0.7	1.1
49	3.0	3.0
50	3.0	3.0
51	1.4	1.4
52	3.0	0
53	0	0
54	0	0
55	0	0
56	2.0	2.0
57	3.0	3.0
58	3.0	3.0
59	0	0
60	2.4	2.4
61	2.4	2.4
62	2.4	2.4
63	2.4	2.4
64	3.0	3.0
65	0	0
66	3.0	3.0
67	3.0	3.0
68	3.0	3.0
69	0	0
70	0	0
71	0	0
72	3.0	3.0
73	3.0	3.0
74	3.0	3.0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	0	0
82	0	0
83	0	0
84	0	0
85	0	0.2
86	3.0	3.0
87	3.0	3.0
88	0	0
89	3.0	3.0
90	0	0
91	3.0	3.0
92	0	0
93	0	0
94	3.0	3.0
95	3.0	3.0
96	3.0	3.0
97	0	0
98	3.0	3.0
99	0	0
100	3.0	3.0
101	3.0	3.0
102	3.0	3.0
103	3.0	3.0
104	3.0	3.0
105	0	0
106	0	0
107	0	0
108	3.0	3.0
109	3.0	3.0
110	3.0	3.0
111	0	0
112	3.0	3.0
113	3.0	3.0
114	0	0
115	0	0
116	0	0
117	0	0
118	0	0
119	3.0	3.0
120	0	0
121	0	0
122	0	0
123	3.0	3.0
124	3.0	3.0
125	0	0
126	0	0
127	0	0
128	0	0
IC1002		
1	2.3	2.3
2	0.7	1.1
3	2.4	2.4
4	3.0	3.0
5	3.0	3.0
6	2.0	2.0
7	1.2	1.2
8	1.3	1.3
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	2.9	2.9
20	2.7	2.7
IC1003		
1	2.0	2.6

MODE PIN NO.	REC	PLAY
2	3.0	3.0
3	0	0
4	3.0	3.0
5	3.0	3.0
6	3.0	3.0
7	0	0
8	3.0	3.0
IC1004		
1	0	0
2	3.0	3.0
3	1.9	2.2
4	0	0
5	3.0	3.0
6	0.5	0.5
7	0.4	0.3
8	3.0	3.0
IC1005		
1	3.0	3.0
2	3.0	3.0
3	0	0
4	0	0
IC1007		
1	0	0
2	0	0
3	0	0
4	0	0
5	3.0	3.0
IC1012		
1	0	0
2	0.6	0.6
3	3.0	3.0
4	0	0
5	0	0
6	2.4	2.4
7	3.0	3.0
8	3.0	3.0
Q1001		
E	0	0
C	4.0	4.0
B	0	0
Q1002		
E	3.0	3.0
C	3.0	3.0
B	2.4	2.4
Q1003		
E	0	0
C	0	0
B	3.0	3.0
Q1004		
E	2.3	2.3
C	2.2	2.2
B	1.6	1.6
Q1005		
E	0	0
C	0	0
B	3.0	3.0
Q1006		
E	4.9	4.9
C	4.9	4.9
B	4.4	4.2
Q1007		
E	0	0
C	0	0
B	3.0	3.0
Q1009		
E	0	0
C	0	0
B	0.6	0.6
Q1010		
E	5.1	5.1
C	5.1	5.1
B	4.5	4.5

MODE PIN NO.	REC	PLAY
Q1011		
E	0	0
C	0	0
B	3.0	3.0
Q1012		
E	3.1	3.1
C	3.1	3.1
B	2.4	2.4
Q1013		
E	0	0
C	0	0
B	3.0	3.0
CN1001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	3.0	3.0
7	3.0	3.0
8	0	0
9	2.5	2.5
10	4.2	4.2
CN1002		
1	5.0	5.0
2	0	0
3	3.1	3.1
4	0	0
5	2.4	2.4
6	0	0
7	0	0
CN1004		
1	0	0
2	0	0
3	3.0	3.0
4	0	0
5	3.0	3.0
6	2.4	2.4
7	3.0	3.0
8	3.0	3.0
9	1.9	1.9
10	0	0
11	2.1	1.2
12	0	0
13	0	0
14	0	0
15	0.1	0.1
16	3.0	3.0
17	2.8	2.8
18	2.4	2.4
19	3.9	3.9
20	2.4	2.4
21	0	0
22	3.0	1.8
23	1.2	1.2
24	1.5	1.5
25	0	0
26	0	0

<MSD CPU>

MODE PIN NO.	REC	PLAY
IC1401		
1	0	0
2	3.0	3.0
3	3.0	3.0
4	3.0	3.0

MODE PIN NO.	REC	PLAY
5	0	0
6	3.0	3.0
7	3.0	3.0
8	0	0
9	3.4	3.4
10	3.0	3.0
11	0	0
12	3.0	3.0
13	3.0	3.0
14	3.0	3.0
15	2.9	2.9
16	0	0
17	0	0
18	0	0
19	3.0	3.0
20	-	-
21	-	-
22	0	0
23	0	0
24	3.0	3.0
25	0	0
26	0	0
27	0	0
28	3.0	3.0
29	3.0	3.0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	3.0
39	0	3.0
40	0	3.0
41	3.0	3.0
42	0	0
43	3.0	3.0
44	0	0
45	3.0	3.0
46	3.0	3.0
47	0	0
48	3.0	3.0
49	0	0
50	0	0
51	0	0
52	3.0	3.0
53	0	0
54	1.5	1.5
55	1.5	1.5
56	1.5	1.5
57	1.5	1.5
58	0	0
59	-	-
60	-	-
61	0	0
62	1.4	1.4
63	1.4	1.4
64	1.5	1.5
65	0	0
66	3.0	3.0
67	3.0	3.0
68	3.0	3.0
69	0	0
70	0	0
71	0	0
72	0	0
73	3.0	3.0
74	3.0	3.0
75	3.0	3.0
76	3.0	3.0

MODE PIN NO.	REC	PLAY
77	3.0	3.0
78	3.0	3.0
79	3.0	3.0
80	1.3	1.3
81	3.0	3.0
82	2.4	2.0
83	3.0	3.0
84	3.0	3.0
85	0	0
86	0	0
87	0	0
88	0	0
89	0	0
90	1.8	1.8
91	3.0	3.0
92	1.6	1.6
93	1.5	1.5
94	1.6	1.6
95	3.0	1.5
96	0	3.0
97	0	0
98	0	0
99	1.4	1.4
100	0.7	0.7
101	0	0
102	3.0	3.0
103	0	0
104	0	0
105	0	0
106	0	0
107	3.0	2.7
108	0	0
109	1.5	1.5
110	0	0
111	0	0
112	0	0
113	0	0
114	0	0
115	0	0
116	0	0
117	0	0
118	3.1	3.1
119	3.0	3.0
120	0	0
121	0	0
122	0	0
123	0	0
124	0	0
125	3.0	3.0
126	3.0	3.0
127	3.0	3.0
128	3.0	3.0
129	2.4	2.4
130	0	0
131	0	0
132	1.1	1.1
133	0	0
134	0.4	0.6
135	0	0
136	2.3	2.3
137	2.3	2.3
138	2.3	2.3
139	0.4	0.4
140	0.4	0.4
141	0.4	0.4
142	0.4	0.4
143	0.3	0.3
144	0.4	0.4
145	0.4	0.4
146	0.5	0.7
147	0.4	0.4
148	1.6	1.2

MODE PIN NO.	REC	PLAY
149	0.5	0.5
150	0.4	0.8
151	0.5	0.5
152	0.5	0.5
153	0.5	0.5
154	0.7	0.7
155	0	0
156	2.3	2.3
IC1402		
1	-	-
2	3.0	3.0
3	-	-
4	0	0
5	-	-
6	0	0
7	-	-
8	3.0	3.0
Q1401		
E	3.0	3.0
C	3.0	3.0
B	0	0
Q1402		
1(B)	0	0
2(E)	0	0
3(B)	0	0
4(C)	3.1	3.1
5(C)	3.1	3.1
Q1403		
1(E)	0	0
2(B)	0.7	0.7
3(E)	3.0	3.0
4(C)	0.6	0.6
5(C)	2.5	2.5
Q1404		
1(E)	0	0
2(B)	3.0	3.0
3(E)	3.0	3.0
4(C)	2.8	2.8
5(C)	0	0
Q1405		
E	1.7	1.7
C	0	0
B	0.6	0.6
CN1401		
1	0	0
2	3.0	3.0
3	0	0
4	1.2	1.2
5	-	-
6	3.1	3.1
7	1.2	1.2
8	-	-
9	3.0	3.0
10	3.0	3.0
11	-0.2	-0.2
12	0	0
13	3.0	3.0
14	0	0
15	0	0
CN1402		
1	0	0
2	2.8	2.8
3	1.5	1.5
4	1.5	1.5
5	3.0	3.0
6	0	0
7	0	0
8	3.0	3.0
9	3.0	3.0
10	3.0	3.0
11	0	0
12	1.5	1.5

MODE PIN NO.	REC	PLAY
13	1.3	1.3
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	3.0	3.0
20	3.0	3.0

<AUDIO AD/DA>

MODE PIN NO.	REC	PLAY
IC2101		
1	3.1	3.1
2	3.1	3.1
3	1.5	1.5
4	1.5	1.5
5	1.5	1.5
6	1.5	1.5
7	3.0	3.0
8	3.0	3.0
9	1.9	1.5
10	1.5	1.5
11	1.5	1.5
12	1.0	1.0
13	0	0
14	3.0	3.0
15	0.6	1.0
16	0	0
17	0	0
18	3.0	3.0
19	1.5	1.5
20	1.5	1.5
21	1.5	1.5
22	0	0
23	3.1	3.1
24	3.1	3.1
IC2102		
1	2.6	2.6
2	2.6	2.6
3	2.5	2.5
4	5.0	5.0
5	2.6	2.6
6	2.6	2.6
7	2.6	2.6
8	2.6	2.6
9	2.6	2.6
10	2.6	2.6
11	0	0
12	2.6	2.6
13	2.6	2.6
14	2.6	2.6
Q2102		
E	2.5	2.5
C	4.9	4.9
B	3.1	3.1
CN2101		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0

<CAS>

MODE PIN NO.	REC	PLAY
IC3001		
1	1.0	1.0
2	0	0
3	1.0	1.0
4	1.0	1.0
5	0.6	0.6
6	0.8	0.8
7	1.0	1.0
8	0	0
9	0.5	0.5
10	0.9	0.9
11	0.9	0.9
12	0.9	0.9
13	2.1	2.1
14	2.1	2.1
15	2.1	2.1
16	1.1	1.1
17	0	0
18	0.5	0.5
19	0.9	0.9
20	1.0	1.0
21	1.0	1.0
22	1.1	1.1
23	1.2	1.2
24	1.0	1.0
25	0	0
26	0.9	0.9
27	0.9	0.9
28	0	0
29	0.9	0.9
30	0.9	0.9
31	0.9	0.9
32	0.8	0.8
33	0	0
34	0.9	0.9
35	0.9	0.9
36	0.9	0.9
37	0.9	0.9
38	2.1	2.1
39	2.1	2.1
40	1.1	1.1
41	1.9	1.9
42	0	0
43	1.4	1.4
44	1.6	1.6
45	2.1	0
46	2.1	2.1
47	1.3	1.4
48	1.3	1.4
49	1.3	1.4
50	1.3	1.3
51	0	0
52	0	0
53	0	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	2.1	2.1
63	3.0	3.0
64	3.0	1.4
65	2.7	1.4
66	0	0
67	0	3.0
68	3.0	3.0
69	1.5	1.5
70	2.9	2.9
71	3.0	3.0

MODE PIN NO.	REC	PLAY
72	0	0
73	0	0
74	3.0	3.0
75	0	0
76	3.0	3.0
77	0	0
78	3.0	3.0
79	3.0	3.0
80	3.0	3.0
81	1.4	1.4
82	0	0
83	0	0
84	0	0
85	0	0
86	1.0	1.0
87	2.1	2.1
88	3.0	3.0
89	3.0	3.0
90	1.4	3.0
91	1.4	2.7
92	0	0
93	1.0	1.0
94	1.5	1.5
95	1.9	1.5
96	1.4	1.4
97	0	0
98	0	0
99	1.4	1.4
100	0	0
IC3002		
1	0.9	0.9
2	0.9	0.9
3	0.8	0.8
4	0	0
5	0.8	0.8
6	0.8	0.8
7	0	0
8	0.9	0.9
9	0	0
10	0	0
11	0	0
12	0	0
13	-	-
14	3.0	3.0
15	3.0	3.0
16	0	0
17	0	0
18	1.1	1.1
19	0	0
20	2.3	2.3
21	1.0	1.0
22	0	0
23	1.9	1.9
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	2.1	0
30	0.5	0.5
31	0	0
32	0.9	0.9
33	0.9	0.9
34	0	0
35	0.9	0.9
36	2.1	2.1
37	2.1	2.1
38	-	-
39	0	0
40	0	0
41	0.5	0.5
42	0	0

MODE PIN NO.	REC	PLAY
43	0.8	0.8
44	0.8	0.8
45	0	0
46	0.8	0.8
47	3.0	3.0
48	3.0	3.0
49	0	0
50	0	0
51	3.0	3.0
52	0	0
53	0	0
54	0	0
55	2.2	2.2
56	1.4	1.4
57	0	0
58	1.1	1.1
59	1.6	1.6
60	0	0
61	0	0
62	0	0
63	-	-
64	3.0	3.0
65	3.0	3.0
66	0	0
67	0.9	0.9
68	0.9	0.9
69	0	0
70	1.0	1.0
71	1.0	1.0
72	0	0
73	1.1	1.1
74	0.9	0.9
75	1.0	1.0
76	0	0
77	0	0
78	1.0	1.0
79	0.5	0.5
80	0.9	0.9
81	0	0
82	0.8	0.8
83	0.7	0.7
84	0	0
85	1.1	1.1
86	2.3	2.3
87	2.3	2.3
88	-	-
89	0	0
90	0	0
91	1.0	1.0
92	0	0
93	0.8	0.8
94	0.6	0.6
95	0	0
96	1.1	1.1
97	0.9	0.9
98	0.9	0.9
99	0	0
100	0	0
IC3003		
1	0	0
2	1.0	1.0
3	0.9	1.0
4	2.1	2.1
5	0	0
6	3.0	3.0
7	2.0	1.7
8	2.0	1.7
9	1.9	1.7
10	1.5	1.5
11	1.4	1.2
12	1.5	1.3
13	1.4	1.3

MODE PIN NO.	REC	PLAY
14	1.3	1.3
15	1.5	1.5
16	1.8	1.4
17	1.8	1.4
18	1.1	1.4
19	1.0	0.5
20	2.6	2.6
21	0	0
22	3.0	3.0
23	0	0
24	2.1	2.1
25	1.0	1.3
26	0.9	1.2
27	1.1	1.4
28	1.1	1.3
29	1.1	1.4
30	1.2	1.6
31	1.2	1.5
32	1.1	1.3
33	1.1	1.4
34	1.1	1.3
35	1.1	1.4
36	1.1	1.4
37	1.1	1.4
38	1.1	1.5
39	1.1	1.4
40	1.1	1.4
41	3.0	3.0
42	0	0
43	0	0
44	0	0
45	0	0
46	0	1.0
47	0	2.0
48	0	1.5
49	3.0	3.0
50	3.0	3.0
51	3.0	3.0
52	2.6	2.6
53	1.2	1.3
54	0	0
55	0	0
56	1.3	1.3
57	3.0	3.0
58	2.1	2.1
59	1.0	0
60	0	0
61	3.0	3.0
62	0	1.4
63	0	1.3
64	0	1.3
65	0	1.4
66	0	1.2
67	0	1.1
68	0	1.9
69	0	0
70	3.0	3.0
71	3.0	0
72	1.7	1.7
73	0	1.2
74	0	1.4
75	0.4	0.6
76	1.0	1.0
77	3.0	2.9
78	0	0
79	0	0
80	0	0
81	0	0
82	0	0
83	0	0
84	3.0	3.0
85	0	0

MODE PIN NO.	REC	PLAY
86	0	0
87	3.0	3.0
88	2.9	0
89	0	2.9
90	3.0	0
91	0	3.0
92	3.0	3.0
93	1.5	1.5
94	0	0
95	0	0
96	0	0
97	1.5	1.5
98	3.0	3.0
99	0	0
100	0	0
101	2.3	2.3
102	2.3	2.3
103	0.7	0.7
104	0.5	0.5
105	0.5	0.5
106	0.5	0.5
107	0.4	0.8
108	0.6	0.4
109	1.8	1.1
110	0.4	0.4
111	2.1	2.1
112	0	0
113	0.6	0.6
114	0.4	0.6
115	0.4	0.4
116	0.3	0.3
117	0.4	0.4
118	0.4	0.4
119	0.5	0.5
120	0.4	0.4
121	2.1	2.1
122	0	0
123	2.1	2.1
124	2.1	2.1
125	0	0
126	2.1	2.1
127	0	0
128	3.0	3.0
129	0	0
130	3.0	3.0
131	1.5	1.5
132	2.7	2.7
133	0	0
134	3.0	3.0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	2.1	2.1
141	0	0
142	3.0	3.0
143	0	0
144	3.0	3.0
145	0	0
146	3.0	3.0
147	3.0	3.0
148	0	0
149	0	0
150	2.1	2.1
151	1.2	1.2
152	1.3	1.3
153	1.3	1.3
154	1.3	1.3
155	2.1	2.1
156	2.1	2.1
IC3004		

MODE PIN NO.	REC	PLAY
1	3.0	3.0
2	1.1	1.1
3	1.1	1.1
4	1.2	1.2
5	1.1	1.1
6	3.0	3.0
7	1.1	1.1
8	1.1	1.3
9	1.1	1.3
10	1.1	1.3
11	-	-
12	-	-
13	0	0
14	0	0
15	2.6	2.6
16	1.0	0.5
17	0	0
18	1.1	1.4
19	1.8	1.4
20	1.8	1.4
21	1.5	1.5
22	3.0	3.0
23	0	0
24	1.3	1.4
25	1.4	1.3
26	1.5	1.3
27	1.4	1.3
28	1.5	1.5
29	1.9	1.7
30	2.0	1.9
31	2.0	1.9
32	0	0.2
33	-	-
34	-	-
35	1.1	1.3
36	1.3	1.5
37	1.2	1.5
38	1.1	1.4
39	0	0
40	1.1	1.3
41	1.1	1.3
42	1.0	1.1
43	1.1	1.1
44	0	0
IC3005		
1	3.0	0
2	2.5	2.5
3	2.5	2.5
4	0	0
5	4.9	4.9
6	2.5	2.5
7	2.5	2.5
8	4.9	4.9
9	0	0
10	1.3	1.1
11	0	2.0
12	0	1.0
13	0	1.3
14	0	1.3
15	3.0	3.0
16	0	0
17	0	1.4
18	0	1.4
19	0	1.4
20	0	1.4

<DV I/O>

MODE PIN NO.	REC	PLAY
IC3201		
1	2.3	0
2	-	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	2.9	2.9
9	0	0
10	0	0
11	2.2	2.1
12	3.1	3.0
13	2.1	2.1
14	0	0
15	0	0
16	1.5	1.5
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	3.1	3.0
23	2.1	2.0
24	0	0
25	1.3	1.3
26	0	0
27	1.3	1.3
28	1.8	1.7
29	0	2.9
30	2.9	0
31	3.1	3.0
32	2.3	1.6
33	1.4	1.5
34	1.6	1.8
35	1.6	1.8
36	2.7	0
37	1.6	2.2
38	0	0
39	3.0	3.0
40	0	2.9
41	3.1	1.5
42	0.3	1.5
43	3.1	3.0
44	0.3	1.5
45	0	0
46	2.1	1.3
47	0	0
48	0	0
IC3202		
1	1.9	1.9
2	0.7	0.7
3	2.3	2.3
4	3.1	3.1
5	0	0
6	2.0	2.0
7	0.7	0.7
8	2.3	2.3
9	2.9	2.9
10	0	0
11	2.0	2.0
12	0.8	0.8
13	2.5	2.5
14	3.0	3.0
15	0	0
16	2.0	2.0
17	0.8	0.8
18	2.6	2.6
19	2.9	2.9
20	0	0
21	3.0	3.0
22	0	0

MODE PIN NO.	REC	PLAY
23	2.9	0
24	3.0	3.0
25	2.9	2.9
26	0	2.9
27	2.7	2.7
28	2.8	2.8
29	2.8	2.8
30	0	0
31	1.3	1.3
32	1.2	1.2
33	1.2	1.2
34	1.2	1.2
35	2.9	2.9
36	2.3	2.3
37	0	0
38	2.9	2.9
39	0	0
40	0	0
41	2.7	0
42	1.4	1.4
43	2.9	2.9
44	0	0
45	2.9	2.9
46	1.2	1.2
47	1.1	1.1
48	0	0
49	1.4	1.4
50	3.0	3.0
51	3.0	3.0
52	2.2	2.2
53	0	0
54	1.3	1.3
55	3.0	3.0
56	3.0	3.0
57	3.0	3.0
58	1.7	1.4
59	0	0
60	1.0	1.0
61	1.0	1.0
62	1.1	1.1
63	1.0	1.0
64	1.2	1.2
65	0	0
66	2.3	2.3
67	2.2	2.2
68	1.8	0.8
69	0	0.8
70	0	0.9
71	0	0.5
72	0	0.9
73	0	0.7
74	0	0.6
75	1.8	0.9
76	0	0
77	0	0
78	0	0.7
79	0	0.6
80	0	0.6
81	0	1.0
82	0	0
83	0	0
84	0	0
85	0	0
86	0	0
87	2.2	2.2
88	2.2	2.2
89	0	0.8
90	0	0.8
91	0	0.7
92	0	0.3
93	0	1.4
94	0	0.7

MODE PIN NO.	REC	PLAY
95	0	0.5
96	0	0.5
97	1.1	1.1
98	0	0
99	1.8	0.7
100	0	0.6
101	0	0
102	0	0
103	0	0
104	0	0.5
105	0	0.6
106	0.5	1.5
107	0	0
108	2.2	2.2
109	2.2	2.2
110	1.6	0.8
111	0	0.8
112	0	0.8
113	0	0.3
114	0.5	1.4
115	0	0.7
116	0	0.5
117	0	0.6
118	0	0
119	1.0	1.0
120	0	0
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0
126	0	0
127	0	0
128	0	0
129	2.9	2.9
130	2.2	2.2
131	0	0
132	0	0
133	0	0
134	0	0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	0	0
141	0	0
142	0	0
143	2.3	2.9
144	2.2	2.2
145	0	0
146	3.0	3.0
147	0	0
148	0	0
149	2.9	2.9
150	2.9	2.9
151	0	0
152	0	0
153	0	0
154	0.2	0.2
155	1.6	0
156	0.3	0.3
157	1.0	1.4
158	2.0	2.0
159	0.7	0
160	0	0
161	1.4	1.4
162	0.8	0.8
163	2.9	2.9
164	0	0
165	1.4	0.4
166	2.0	2.0

MODE PIN NO.	REC	PLAY
167	0.7	0
168	0	0
169	1.4	1.4
170	0.8	0.8
171	3.0	3.0
172	0	0
173	0	0
174	2.9	2.9
175	0	0
176	2.9	2.9
IC3203		
1	5.0	5.0
2	5.0	5.0
3	1.9	1.9
4	1.5	1.5
5	0	0
6	1.8	1.8
7	3.1	3.1
8	1.9	1.9
9	0	0
10	3.0	3.0
11	0	0
12	2.0	2.0
13	2.3	2.3
14	2.4	2.4
15	2.4	2.4
16	0	0
17	0	0
18	2.0	2.0
19	0	0
20	0.4	0.4
21	0	0
22	0	0
23	1.2	0.8
24	1.1	2.9
25	2.0	2.0
26	1.9	1.9
27	0	0
28	1.9	1.9
29	2.0	2.0
30	3.0	3.0
31	3.0	3.0
32	0	0
33	2.3	2.3
34	0	0
35	3.1	3.1
36	0	0
37	2.2	2.2
38	1.6	1.6
39	0	0
40	0	0
41	1.5	1.5
42	0	0
43	5.0	5.0
44	0	0
45	1.3	1.3
46	3.3	3.3
47	3.1	3.1
48	0	0
IC3204		
1	1.0	1.0
2	0	0
3	1.0	1.0
4	1.0	1.0
5	2.5	2.5
6	0.3	0.3
7	4.2	4.2
8	3.9	3.9
9	2.6	2.6
10	5.0	5.0
11	2.0	2.0
12	2.1	2.1

MODE PIN NO.	REC	PLAY
13	2.9	2.9
14	3.2	3.2
IC3205		
1	3.0	3.0
2	0.2	0.2
3	0	0
4	0.2	0.2
5	3.1	3.1
IC3206		
1	3.9	3.9
2	4.2	4.2
3	0	0
4	0.2	0.2
5	3.1	3.0
Q3201		
E	1.9	1.9
C	3.0	3.0
B	2.4	2.4
Q3202		
E	1.7	1.7
C	3.0	3.0
B	2.3	2.3
Q3205		
E	1.4	1.4
C	5.0	5.0
B	2.0	2.0

<Y/C SEP>

MODE PIN NO.	REC	PLAY
IC3302		
1	4.8	4.8
2	2.4	2.4
3	0	0
4	2.5	2.5
5	4.9	4.9
IC3303		
1	3.1	3.1
2	0	0
3	0	0
4	0	0
5	3.1	3.1
IC3351		
1	2.9	2.9
2	4.9	4.9
3	2.5	2.5
4	3.1	3.1
5	1.0	1.0
6	4.4	4.4
7	2.1	2.1
8	2.4	2.4
9	2.6	2.6
10	0	0
11	2.9	2.9
12	2.8	2.8
13	3.2	3.2
14	4.9	4.9
15	4.9	4.9
16	3.4	3.4
17	0	0
18	3.6	3.6
19	5.0	5.0
20	4.3	4.3
21	-	2.1
22	0.2	0.2
23	3.9	3.9

MODE PIN NO.	REC	PLAY
24	0	0
25	4.9	4.9
26	3.1	3.1
27	2.7	2.7
28	3.7	3.7
29	3.7	3.7
30	0	0
31	0	0
32	0	0
33	4.2	4.2
34	2.8	2.8
35	4.1	4.1
36	2.7	2.7
IC3401		
1	4.9	4.9
2	1.7	1.7
3	2.4	2.4
4	0	0
5	5.0	5.0
6	0	0
7	1.5	1.5
8	3.3	3.3
9	2.2	2.2
10	5.0	5.0
11	0	0
12	0.7	0.7
13	2.3	2.3
14	0	0
15	2.3	2.3
16	1.3	1.3
17	3.3	3.3
18	0	0
19	5.0	5.0
20	5.0	5.0
21	0	0
22	0	0
23	5.0	5.0
24	5.0	5.0
25	5.0	5.0
26	5.0	5.0
27	5.0	5.0
28	5.0	5.0
29	5.0	5.0
30	0	0
31	0	0
32	5.0	5.0
33	5.0	5.0
34	5.0	5.0
35	5.0	5.0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	5.0	5.0
44	2.1	2.1
45	1.6	1.6
46	1.6	1.6
47	2.2	2.2
48	0	0
IC3402		
1	2.0	2.0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0.3
7	2.0	2.0
8	5.0	5.0
IC3403		

MODE PIN NO.	REC	PLAY
1	1.7	1.7
2	0	0
3	0	0
4	0	0
5	0	0
6	1.2	1.2
7	1.7	1.7
8	5.0	5.0
IC3404		
1	2.0	2.0
2	0	0
3	0	0
4	0	0
5	0	5.0
6	1.9	1.9
7	2.1	2.1
8	5.0	5.0
IC3405		
1	1.2	1.7
2	0	0
3	0	0
4	0	0
5	0	5.0
6	1.7	1.7
7	1.1	1.1
8	5.0	5.0
IC3406		
1	0	3.0
2	0	0
3	0	0
4	0	5.0
5	5.0	5.0
IC3407		
1	2.1	2.1
2	0	0
3	0	0
4	0	0
5	0	0
6	1.4	1.4
7	2.1	2.1
8	5.0	5.0
IC3408		
1	1.8	1.8
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	1.8	1.8
8	5.0	5.0
Q3301		
E	1.4	1.4
C	5.0	5.0
B	2.0	2.0
Q3302		
E	2.4	2.4
C	0	0
B	1.8	1.8
Q3303		
E	1.8	1.8
C	4.4	4.2
B	2.4	2.4
Q3304		
E	4.9	4.9
C	2.7	2.7
B	4.2	4.2
Q3307		
E	2.1	2.1
C	4.9	4.9
B	2.7	2.7
Q3308		
E	0.6	0.6

MODE PIN NO.	REC	PLAY
C	0	0
B	0	0
Q3401		
E	2.9	2.9
C	5.0	5.0
B	3.4	3.4
Q3402		
E	3.3	3.3
C	3.4	3.4
B	4.0	4.0
Q3403		
E	1.5	1.5
C	1.3	1.3
B	0.8	0.8
Q3404		
E	2.1	2.1
C	0	0
B	2.9	2.9
Q3405		
E	2.1	2.1
C	0	0
B	1.5	1.5
Q3406		
E	1.5	1.5
C	5.0	5.0
B	1.5	1.5
Q3407		
E	1.5	1.5
C	5.0	5.0
B	2.1	2.1
Q3408		
E	2.1	2.1
C	5.0	5.0
B	2.1	2.1
Q3409		
E	2.0	2.0
C	0	0
B	1.5	1.5
Q3412		
E	1.4	1.4
C	0	0
B	0.7	0.7
Q3413		
E	1.9	1.9
C	0	0
B	1.2	1.2
Q3414		
E	2.0	2.0
C	5.0	5.0
B	2.6	2.6
Q3415		
E	1.7	1.7
C	5.0	5.0
B	2.3	2.3
Q3416		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q3417		
E	2.7	2.7
C	5.0	5.0
B	3.3	3.3
Q3420		
E	1.0	1.0
C	4.7	4.7
B	1.7	1.7
Q3421		
E	2.6	2.6
C	0	0
B	2.0	2.0
Q3422		
E	1.7	2.3

MODE PIN NO.	REC	PLAY
C	0	0
B	1.1	1.7

<EQ DA>

MODE PIN NO.	REC	PLAY
IC3501		
1	3.0	2.9
2	1.2	1.2
3	0	0
4	2.0	2.0
5	1.2	1.2
6	3.1	2.9
7	1.2	1.2
8	1.3	1.3
9	1.2	1.2
10	1.1	1.1
11	1.2	1.2
12	0	0
13	1.9	1.8
14	2.2	2.2
15	1.4	1.4
16	1.6	1.9
17	1.1	1.0
18	1.1	1.1
19	1.5	1.4
20	2.1	2.2
21	2.5	2.1
22	1.8	2.2
23	1.5	2.3
24	0	0
25	1.5	1.5
26	2.9	2.9
27	2.3	2.3
28	3.1	3.1
29	2.1	2.1
30	0	0
31	1.1	1.1
32	3.1	3.1
33	2.6	2.6
34	0	0
35	1.3	1.1
36	1.3	1.1
37	3.1	3.1
38	0	1.2
39	2.1	2.0
40	1.3	1.3
41	2.0	2.0
42	1.9	1.8
43	1.9	1.9
44	1.9	1.9
45	2.9	2.9
46	1.4	1.4
47	0	0
48	2.1	1.8
49	3.0	2.9
50	1.1	1.0
51	1.1	1.0
52	0	0
53	1.7	1.6
54	1.1	1.1
55	2.5	2.5
56	1.5	1.5
57	3.0	3.0
58	1.1	1.1
59	1.8	1.8
60	0.9	0.9
61	0	0
62	1.9	1.9
63	3.0	3.0
64	0	0
IC3503		
1	1.4	1.4
2	2.1	2.1
3	1.3	1.3
4	3.1	3.1
5	0.9	0.9
6	1.1	1.1
7	1.4	1.4
8	1.7	1.7
9	1.4	1.4
10	1.9	1.9
11	1.3	1.3
12	3.1	3.1
13	4.9	4.9
14	2.4	2.4
15	2.3	2.3
16	0	0
17	0	0
18	1.7	1.7
19	1.3	1.3
20	2.0	2.0
21	2.0	2.0
22	2.0	2.0
23	1.5	1.5
24	1.1	1.1
25	0	0
26	3.0	3.0
27	3.0	3.0
28	0	0
29	0	0
30	0	0
31	0	0
32	1.3	1.3
Q3501		
E	0.8	0.8
C	2.6	2.6
B	1.5	1.5
Q3502		
E	0	0
C	0	0
B	2.9	2.9
Q3503		
E	2.0	2.0
C	3.0	3.0
B	2.6	2.6
Q3504		
E	1.9	1.9
C	1.9	1.9
B	1.9	1.9
Q3511		
E	1.9	1.9
C	1.9	1.9
B	1.9	1.9
Q3512		
E	0	0
C	1.9	1.9
B	0	0
Q3513		
1(E)	1.3	1.2
2(B)	1.9	1.8
3(C)	0	0
4(E)	1.9	1.8
5(B)	1.3	1.2
6(C)	2.9	2.9
CN3501		
1	3.1	3.1
2	0	0
3	1.9	1.9
4	1.1	0
5	2.3	1.1
6	3.0	1.9
7	2.6	1.1
8	0	0
9	0	0
10	0	0
11	2.9	0
12	0	3.0
13	3.0	3.0
14	1.5	1.5
15	0	3.0
16	3.0	0
17	0	0
18	4.9	4.9
19	0	0
20	0	0

<V OUT>

MODE PIN NO.	REC	PLAY
IC3701		
1	1.8	1.8
2	1.2	1.2
3	1.3	1.3
4	1.2	1.2
5	0	0
6	0	0
7	0	0
8	0	0
9	2.2	2.2
10	2.1	2.1
11	1.7	1.7
12	1.7	1.7
13	0	0
14	2.0	2.0
15	5.1	5.1
16	3.0	3.0
17	0	0
18	1.7	1.7
19	1.8	1.8
20	1.9	1.9
IC3702		
1	5.1	5.1
2	0	0
3	3.0	3.0
Q3701		
E	0	0
C	1.2	1.2
B	0	0
CN3701		
1	1.1	1.1
2	0	0
3	0	0
4	1.8	1.8
5	0	0
6	2.0	2.0
7	1.2	1.2
8	0	0
9	0	0.3

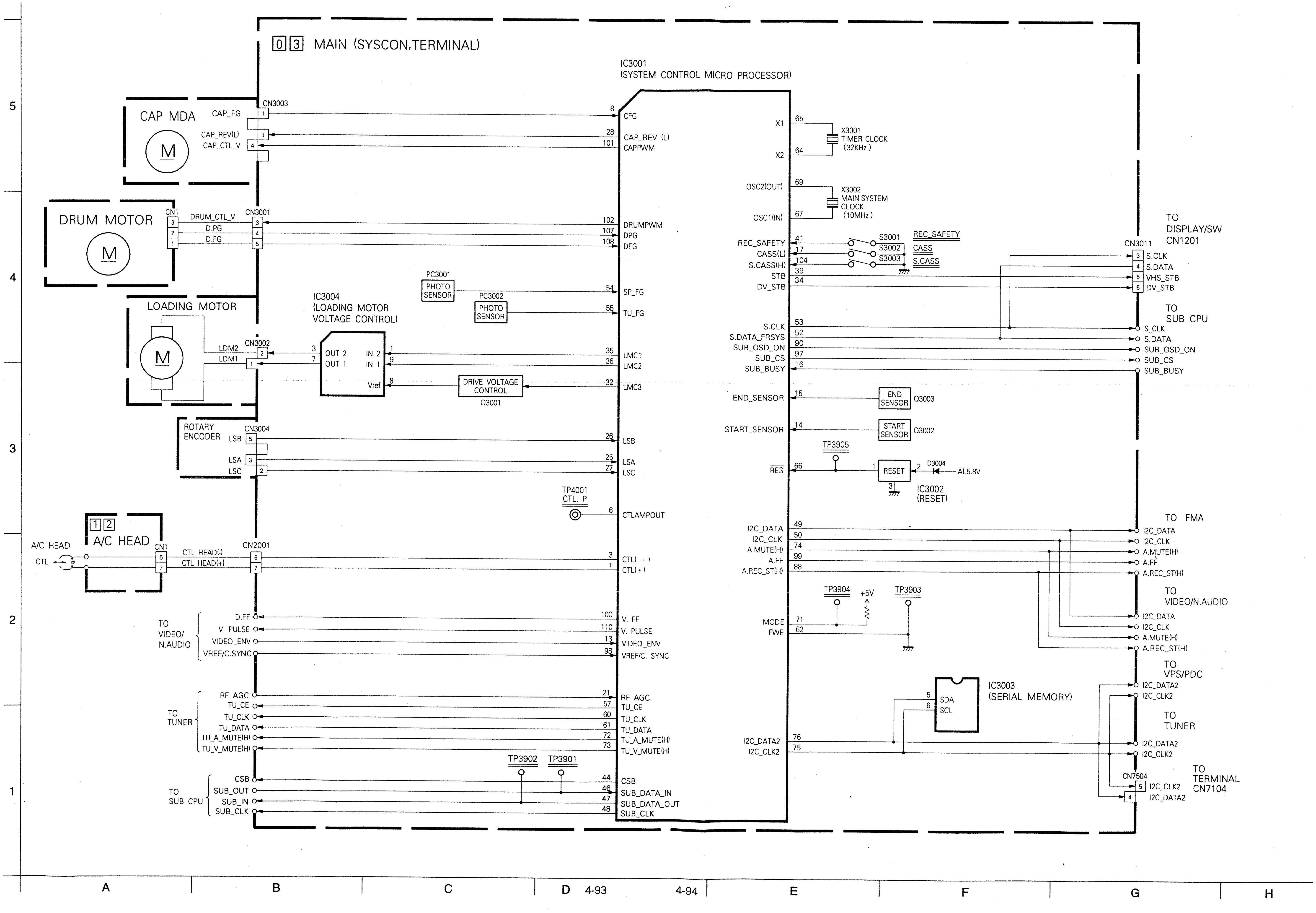
<DSP>

MODE PIN NO.	REC	PLAY
IC4301		
1	-	-
2	-	-
3	3.0	3.0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	3.0	3.0
15	0	0
16	0	0
17	0	0
18	1.5	1.5
19	0	0
20	0.3	0.3
21	1.6	1.6
22	1.3	1.3
23	3.0	0
24	0	3.0
25	3.0	3.0
26	0	0
27	3.0	3.0
28	0	0
29	0	0
30	0	0
31	3.0	3.0
32	0	0
33	0	0
34	3.0	3.0
35	3.0	3.0
36	3.0	3.0
37	0	0
38	1.5	1.5
39	0	0
40	0.3	0.3
41	0	0
42	0.7	0.7
43	1.2	1.2
44	1.5	1.5
45	0	0
46	0	0
47	3.0	3.0
48	0	0
49	2.1	2.1
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	3.0	3.0
56	3.0	3.0
57	3.0	3.0
58	0	0
59	0	0
60	3.0	3.0
61	0	0
62	0	0
63	0	0
64	0.3	0.3
65	0	0
66	2.8	2.8
67	0	0
68	3.0	3.0
69	0	0
70	0.2	0.2
71	0.3	0.3
72	3.0	3.0
73	2.8	2.8
74	0	0
75	0	0
76	0	0
77	3.1	3.1
78	3.0	3.0
79	3.0	3.0
80	1.3	1.3
81	3.0	3.0
82	0	0
83	1.4	1.4
84	1.5	1.5
85	2.7	2.7
86	2.2	2.2
87	0	0
88	0	0
89	0	0
90	1.0	1.0
91	0	1.1
92	0	0.6
93	0	0.5
94	0	0.7
95	0	0.6
96	0	0.5
97	0	0.8
98	0	1.4
99	0	0.4
100	0	0.6
101	0	0.8
102	0	0.8
103	0	0
104	0	0
105	0	0
106	0	0
107	2.1	2.1
108	0	0
109	2.1	2.1
110	0	0
111	1.0	1.0
112	0	0
113	1.0	1.0
114	0	0
115	0.5	1.5
116	0	0.5
117	0	0.5
118	0	0.5
119	0	0.6
120	0	0.7
121	0	0.6
122	1.8	0.7
123	2.3	2.1
124	0	0
125	0	0.6
126	0	0.5
127	0	0.7
128	0.5	1.4
129	0	0
130	0	0.3
131	0	0.7
132	0	0.8
133	1.6	0.8
134	2.1	2.1
135	0	0
136	1.4	1.4
137	3.0	3.0
138	0	0
139	2.3	2.1
140	0	0
141	0	1.2
142	0	0.9
143	0	0.8
144	0	1.0
145	0	0.9
146	0	0.7
147	0	1.0
148	0	1.7
149	0	0.5
150	0	0.8
151	0	1.2
152	0	1.2
153	3.0	3.0
154	0	0
155	0	0
156	0	0
157	0	0
158	0	0
159	2.9	2.9
160	2.5	2.5
161	0	0
162	0	0
163	3.0	3.0
164	2.5	2.5
165	0	0
166	2.6	2.6
167	1.2	1.2
168	3.0	3.0
169	0	0
170	0	1.1
171	0	1.2
172	0	1.0
173	0	0.5
174	0	2.0
175	0	0
176	0	0.9
177	0	0.7
178	0	0.9
179	0	0.9
180	0	0.8
181	0	0.9
182	0	1.5
183	3.0	3.0
184	0	0
185	3.0	3.0
186	3.0	3.0
187	2.3	2.1
188	0	0
189	0	0
190	3.0	3.0
191	0	0
192	3.0	3.0
193	3.0	3.0
194	3.0	3.0
195	0	0
196	3.0	3.0
197	3.0	3.0
198	0	0.8
199	3.0	3.0
200	2.9	2.9
201	3.0	3.0
202	0	3.0
203	0	0
204	0	0
205	2.3	0
206	0	0
207	-	-
208	-	-
IC4302		
1	0	0
2	0	0
3	0	1.5
4	0	0.8
5	0	0.7
6	0	0.9
7	0	0.8
8	0	0.7
9	0	1.0
10	0	2.0
11	0	0.5
12	0	0.8
13	0	1.1
14	0	1.1
15	1.3	1.3
16	0	0
17	2.5	2.5
18	2.8	2.8
19	3.0	3.0
20	0	0
21	3.0	3.0
22	2.5	2.5
23	2.5	2.5
24	0	0
25	1.3	1.3
26	0	1.1
27	0	1.2
28	0	0.8
29	0	0.5
30	0.3	1.5
31	0	1.0
32	0	0.7
33	0	0.8
34	0	0.9
35	0	0.7
36	0	0.8
37	0	1.3
38	0	0
IC4303		
1	0	0
2	0.3	1.4
3	0	0
4	0	1.3
5	0.3	2.9
IC4304		
1	0	0
2	0	1.3
3	0	0
4	0.9	1.4
5	0.3	2.9
IC4305		
1	0	0
2	1.3	0
3	0	0
4	1.2	0
5	2.9	0.3
IC4306		
1	0	0
2	1.2	0
3	0	0
4	1.4	0.9
5	2.9	0.3
Q4301		
E	3.0	3.0
C	0.3	2.9
B	2.9	2.3
Q4302		
E	3.0	3.0
C	2.9	0.3
B	2.3	2.5
Q4303		
E	0	0
C	2.9	0
B	0	3.0
Q4304		
E	0	0
C	0	2.5
B	2.9	0

<DIGITAL IF>

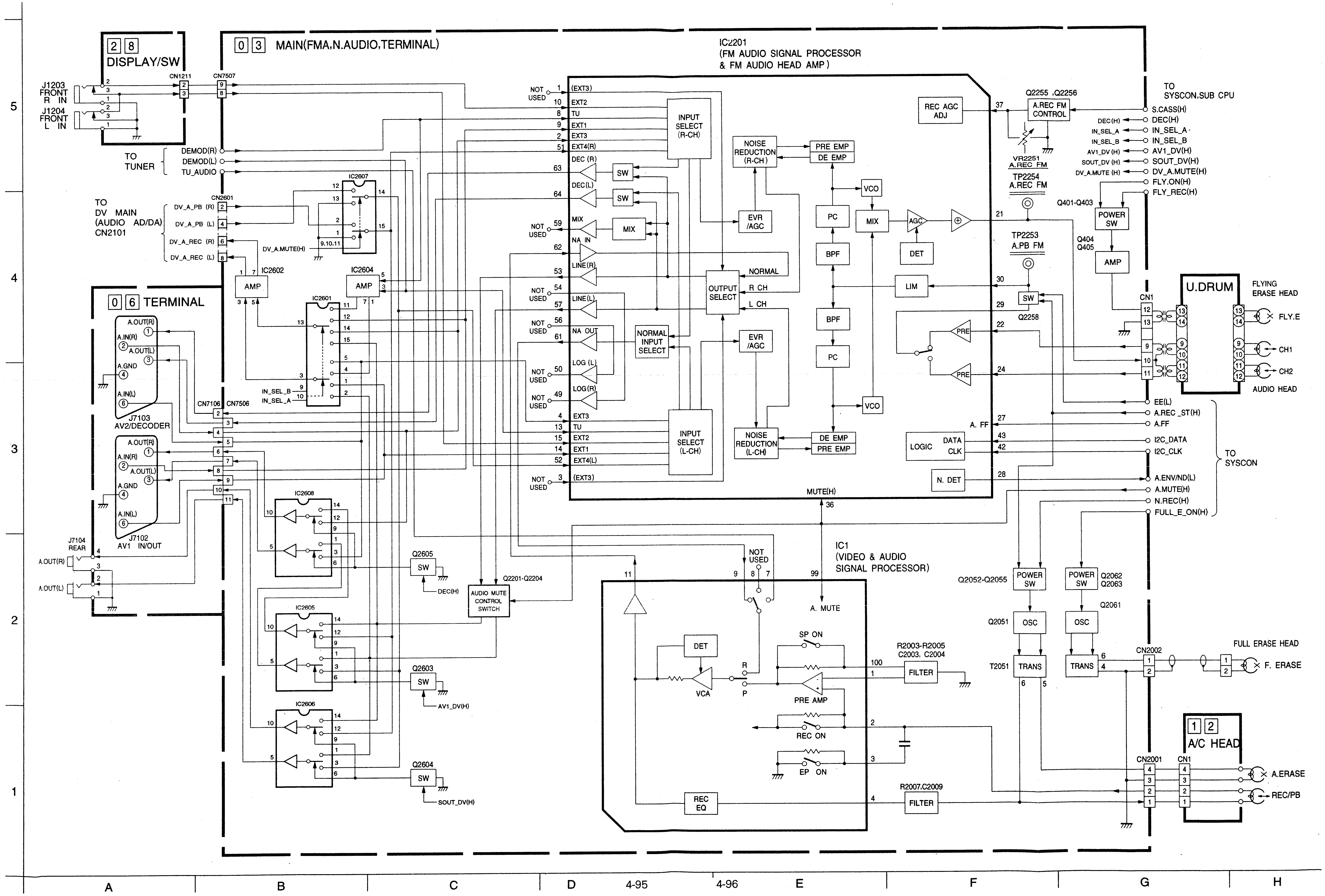
MODE PIN NO.	REC	PLAY
IC8001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.9	2.9
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	2.9	2.9
17	3.0	3.0
18	1.4	1.4
19	0	0
20	0	0
21	0	0
22	0	0
23	0	0
24	2.9	2.9
25	0	0
26	2.9	2.9
27	2.9	2.9
28	0	0
29	0	0
30	3.0	3.0
31	0	0
32	2.9	2.9
33	0	0
34	2.9	2.9
35	0	0
36	2.9	2.9
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	1.3	1.3
44	2.9	2.9
45	0	0
46	0	0
47	2.9	2.9
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	0	0
56	1.3	1.3
57	2.9	2.9
58	0	0
59	0	0
60	0	0
61	1.8	1.8
62	0	0
63	0	0
64	2.9	2.9
65	2.9	2.9
66	0	0
67	1.2	1.2
68	0	0
69	0	0
70	0	0
71	1.8	1.8
72	1.8	1.8
73	1.3	1.3
74	1.3	1.3
75	0	0
76	0	0
77	2.9	2.9
78	2.4	2.4
79	0	0
80	2.9	2.9
81	2.9	2.9
82	2.9	2.9
83	2.9	2.9
84	2.9	2.9
85	2.8	2.8
86	2.9	2.9
87	2.9	2.9
88	0	0
89	0	0
90	2.9	2.9
91	0	0
92	2.8	2.8
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	2.9	2.9
100	2.9	2.9
101	2.1	2.1
102	0.7	0.7
103	0.5	0.5
104	0.5	0.5
105	0.5	0.5
106	0	0
107	0.4	0.8
108	0.6	0.6
109	1.6	1.2
110	0.4	0.4
111	2.1	2.1
112	0.5	0.6
113	0.4	0.4
114	0.4	0.4
115	0.3	0.3
116	0	0
117	0.3	0.3
118	0.4	0.4
119	0.4	0.4
120	0.4	0.4
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0
126	1.0	1.0
127	2.1	2.1
128	2.9	2.9
129	2.1	2.1
130	1.2	1.2
131	1.2	1.2
132	1.2	1.2
133	1.2	1.2
134	2.0	2.0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	2.1	2.1
141	2.1	2.1
142	1.1	1.1
143	2.9	2.9
144	0	0

4.37 SYSTEM CONTROL/SERVO BLOCK DIAGRAM(VHS)

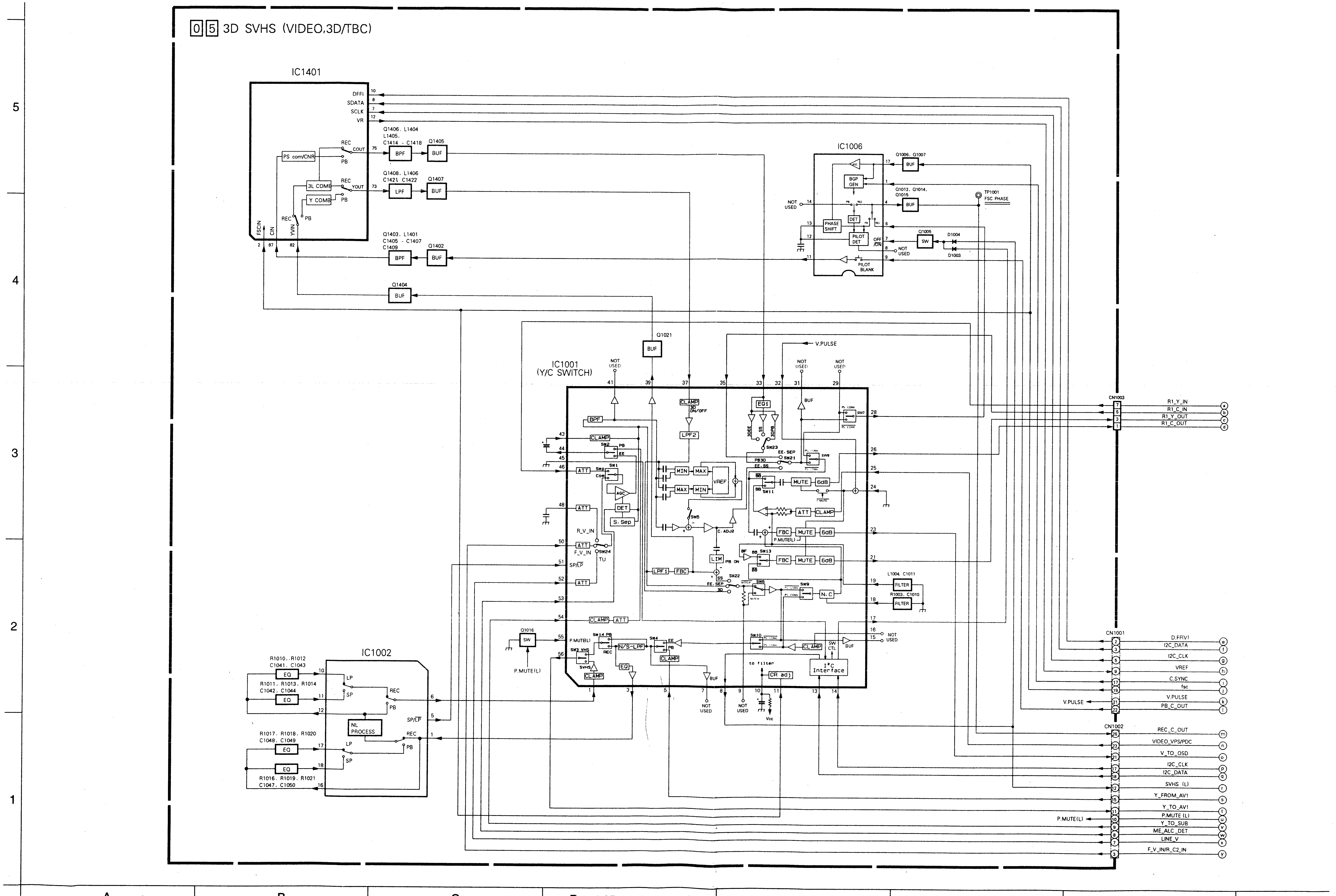


5
4
3
2
1
A
B
C
D
E
F
G
H
03 MAIN (SYSCON,TERMINAL)
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CAP MDA
M
CAP_FG
CAP_REV(L)
CAP_CTL_V
CN3003
1
3
4
8 CFG
28 CAP_REV (L)
101 CAPPWM
DRUM MOTOR
M
CN1
DRUM_CTL_V
D.PG
D.FG
CN3001
102 DRUMPWM
107 DPG
108 DFG
PC3001
PHOTO SENSOR
PC3002
PHOTO SENSOR
54 SP_FG
55 TU_FG
LOADING MOTOR
M
LDM2
LDM1
CN3002
IC3004
(LOADING MOTOR VOLTAGE CONTROL)
OUT 2
OUT 1
IN 2
IN 1
Vref
35 LMC1
36 LMC2
DRIVE VOLTAGE CONTROL
Q3001
32 LMC3
ROTARY ENCODER
CN3004
LSB
LSA
LSC
26 LSB
25 LSA
27 LSC
TP4001
CTL. P
6 CTLAMPOUT
12 A/C HEAD
A/C HEAD
CTL
CN1
CN2001
CTL HEAD(-)
CTL HEAD(+)
3 CTL(-)
1 CTL(+)
TO VIDEO/ N.AUDIO
D.FF
V. PULSE
VIDEO_ENV
VREF/C.SYNC
100 V. FF
110 V. PULSE
13 VIDEO_ENV
98 VREF/C. SYNC
TO TUNER
RF AGC
TU_CE
TU_CLK
TU_DATA
TU_A_MUTE(H)
TU_V_MUTE(H)
21 RF AGC
57 TU_CE
60 TU_CLK
61 TU_DATA
72 TU_A_MUTE(H)
73 TU_V_MUTE(H)
TP3902
TP3901
TO SUB CPU
CSB
SUB_OUT
SUB_IN
SUB_CLK
44 CSB
46 SUB_DATA_IN
47 SUB_DATA_OUT
48 SUB_CLK
X1 65
X2 64
X3001
TIMER CLOCK
(32KHz)
OSC2(OUT) 69
OSC1(IN) 67
X3002
MAIN SYSTEM CLOCK
(10MHz)
REC_SAFETY 41
CASS(L) 17
S.CASS(H) 104
STB 39
DV_STB 34
S3001
S3002
S3003
REC_SAFETY
CASS
S.CASS
TO DISPLAY/SW CN1201
CN3011
3 S.CLK
4 S.DATA
5 VHS_STB
6 DV_STB
TO SUB CPU
S.CLK 53
S.DATA_FRSYS 52
SUB_OSD_ON 90
SUB_CS 97
SUB_BUSY 16
S_CLK
S.DATA
SUB_OSD_ON
SUB_CS
SUB_BUSY
END_SENSOR 15
END SENSOR
Q3003
START_SENSOR 14
START SENSOR
Q3002
TP3905
RES 66
RESET
D3004
AL5.8V
IC3002
(RESET)
TO FMA
I2C_DATA 49
I2C_CLK 50
A.MUTE(H) 74
A.FF 99
A.REC_ST(H) 88
I2C_DATA
I2C_CLK
A.MUTE(H)
A.FF
A.REC_ST(H)
TO VIDEO/N.AUDIO
I2C_DATA
I2C_CLK
A.MUTE(H)
A.REC_ST(H)
TP3904
+5V
TP3903
MODE 71
FWE 62
IC3003
(SERIAL MEMORY)
5 SDA
6 SCL
TO VPS/PDC
I2C_DATA2
I2C_CLK2
TO TUNER
I2C_DATA2
I2C_CLK2
I2C_DATA2 76
I2C_CLK2 75
CN7504
TO TERMINAL CN7104
5 I2C_CLK2
4 I2C_DATA2

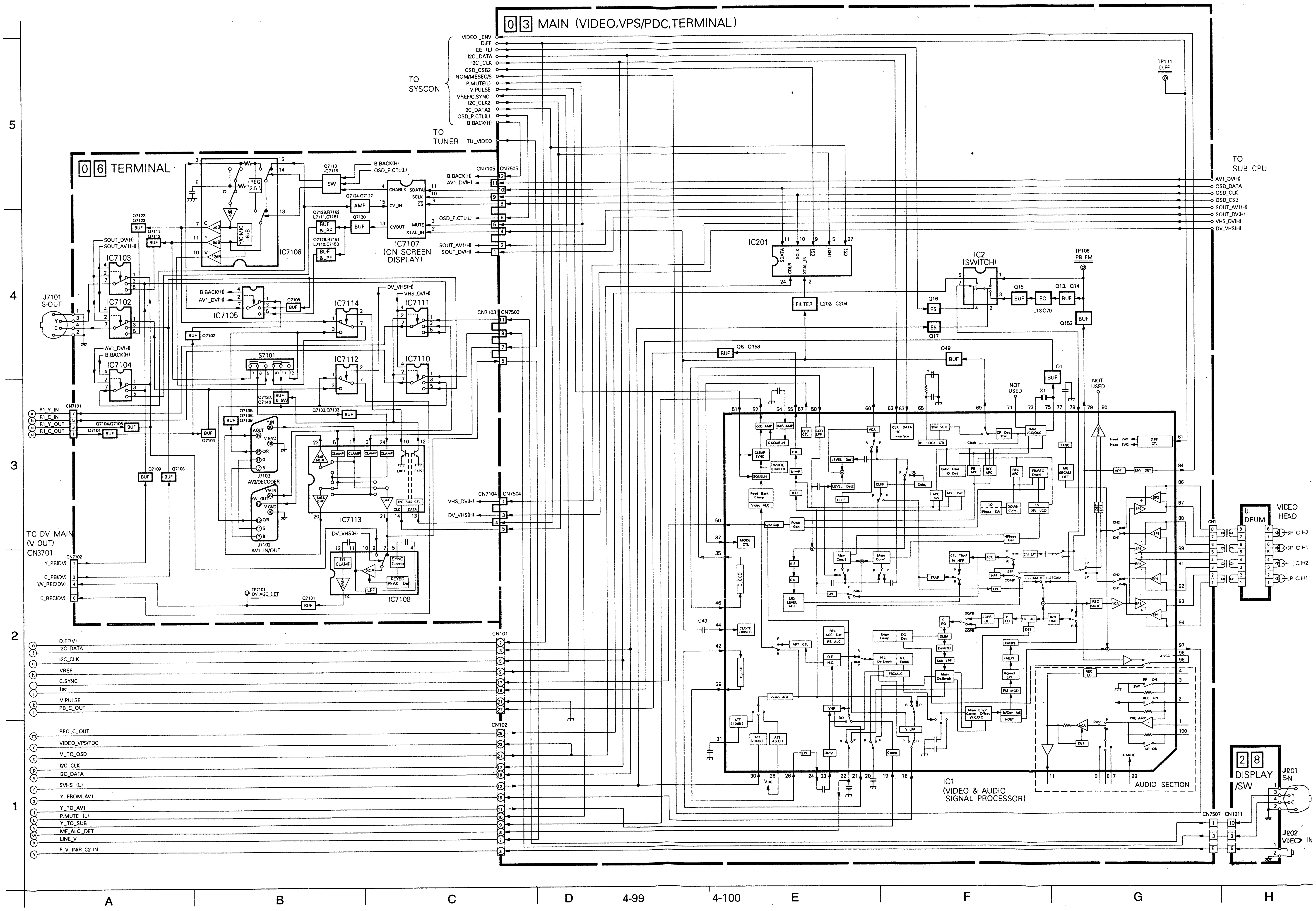
4.38 AUDIO BLOCK DIAGRAM(VHS)


2 8 DISPLAY/SW
J1203 FRONT R IN
J1204 FRONT L IN
CN1211
CN7507
0 3 MAIN(FMA,N.AUDIO,TERMINAL)
IC2201 (FM AUDIO SIGNAL PROCESSOR & FM AUDIO HEAD AMP)
TO TUNER
DEMOD(R)
DEMOD(L)
TU_AUDIO
TO DV MAIN (AUDIO AD/DA) CN2101
CN2601
DV_A_PB (R)
DV_A_PB (L)
DV_A_REC (R)
DV_A_REC (L)
DV_A.MUTE(H)
IC2607
IC2602
AMP
IC2604
IC2601
IN_SEL_B
IN_SEL_A
0 6 TERMINAL
A.OUT(R)
A.IN(R)
A.OUT(L)
A.GND
A.IN(L)
J7103 AV2/DECODER
J7102 AV1 IN/OUT
CN7106
CN7506
J7104 REAR
A.OUT(R)
A.OUT(L)
IC2608
IC2605
IC2606
Q2605
Q2603
Q2604
SW
DEC(H)
AV1_DV(H)
SOUT_DV(H)
AUDIO MUTE CONTROL SWITCH
Q2201-Q2204
NOT USED
(EXT3)
EXT2
TU
EXT1
EXT3
EXT4(R)
DEC (R)
DEC(L)
MIX
NA IN
LINE(R)
LINE(L)
NA OUT
LOG (L)
LOG(R)
EXT4(L)
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
NORMAL INPUT SELECT
OUTPUT SELECT
NORMAL
R CH
L CH
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
EVR /AGC
PRE EMP
DE EMP
PC
BPF
VCO
MIX
AGC
DET
LIM
PRE
REC AGC ADJ
LOGIC
DATA
CLK
A. FF
N. DET
MUTE(H)
Q2255 ,Q2256
A.REC FM CONTROL
VR2251 A.REC FM
TP2254 A.REC FM
TP2253 A.PB FM
Q401-Q403
POWER SW
Q404 Q405
Q2258
TO SYSCON,SUB CPU
S.CASS(H)
DEC(H)
IN_SEL_A
IN_SEL_B
AV1_DV(H)
SOUT_DV(H)
DV_A.MUTE(H)
FLY.ON(H)
FLY_REC(H)
U.DRUM
CN1
FLYING ERASE HEAD
FLY.E
CH1
CH2
AUDIO HEAD
EE(L)
A.REC _ST(H)
A.FF
I2C_DATA
I2C_CLK
A.ENV/ND(L)
A.MUTE(H)
N.REC(H)
FULL_E_ON(H)
TO SYSCON
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
A. MUTE
DET
VCA
SP ON
PRE AMP
REC ON
EP ON
REC EQ
R2003-R2005 C2003, C2004
FILTER
R2007,C2009
Q2052-Q2055
Q2062 Q2063
Q2061
Q2051
OSC
T2051
TRANS
CN2002
FULL ERASE HEAD
F. ERASE
1 2 A/C HEAD
CN2001
A.ERASE
REC/PB
A
B
C
D
E
F
G
H
1
2
3
4
5

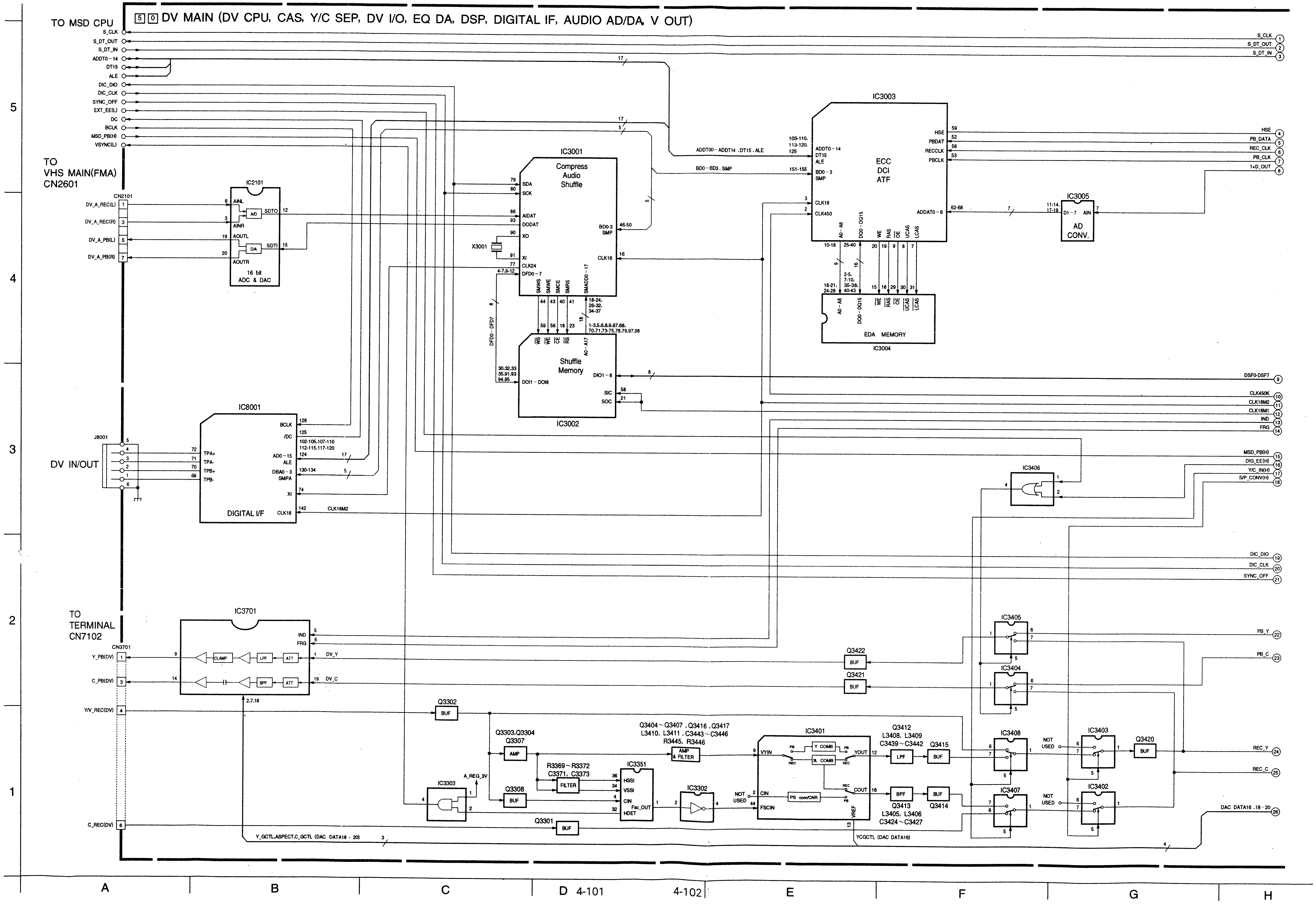
4.39 VIDEO BLOCK DIAGRAM(VHS)

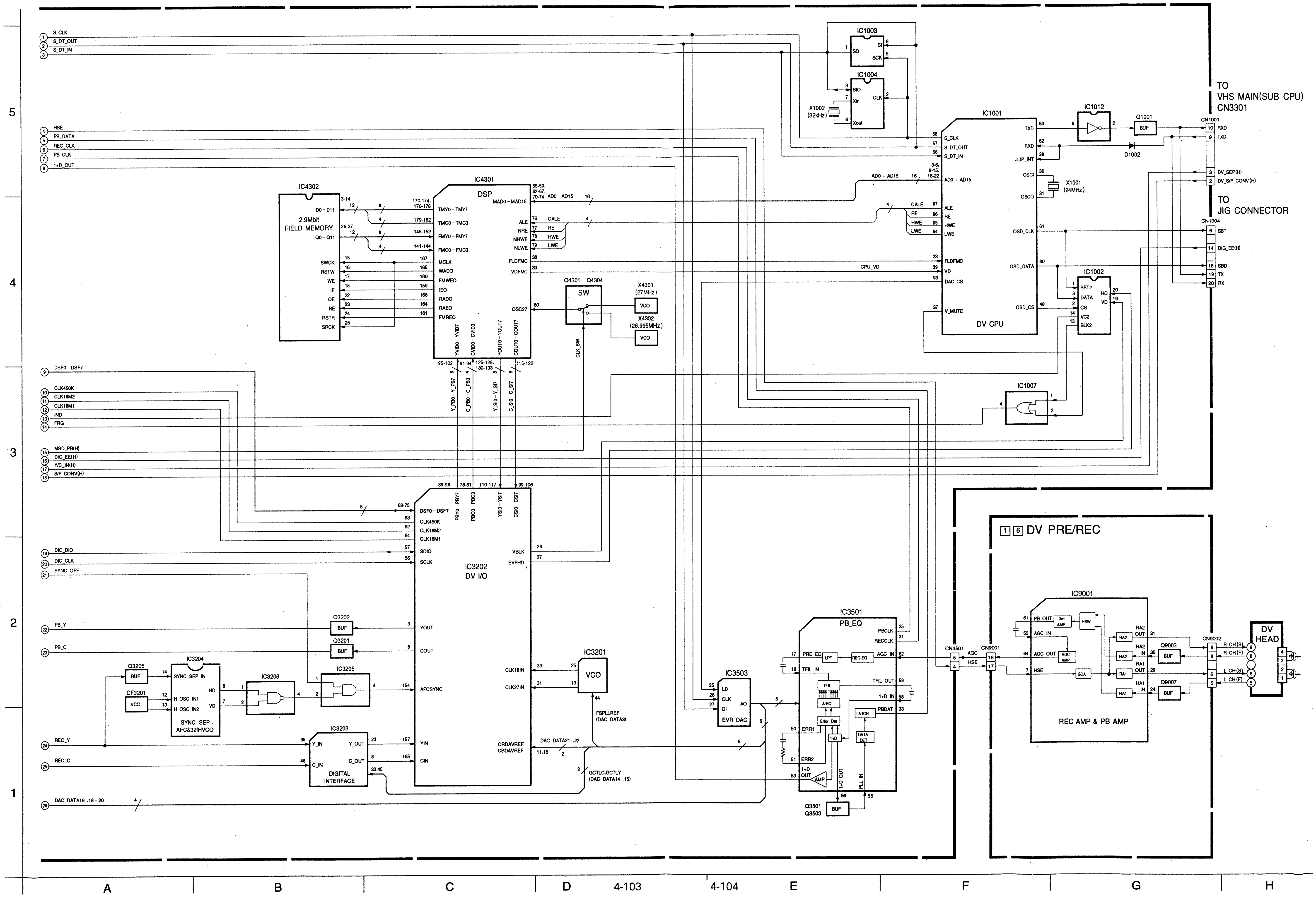


0 5 3D SVHS (VIDEO,3D/TBC)
IC1401
DFFI
SDATA
SCLK
VR
PS com/CNR
3L COMB
Y COMB
REC
PB
COUT
YOUT
FSCIN
CIN
YVIN
Q1406, L1404
L1405,
C1414 - C1418
Q1405
BPF
BUF
Q1408, L1406
C1421 C1422
Q1407
LPF
Q1403, L1401
C1405 - C1407
C1409
Q1402
Q1404
IC1006
Q1006, Q1007
BGP GEN
Q1012, Q1014, Q1015
TP1001
FSC PHASE
NOT USED
PHASE SHIFT
DET
PILOT DET
OFF /ON
Q1005
SW
D1004
D1003
PILOT BLANK
V.PULSE
Q1021
IC1001
(Y/C SWITCH)
CLAMP
3D ON/OFF
LPF2
EQ1
3DEE
SS
3DPB
SW23
EE.SEP
SW21
PB3D
EE.SS
MIN
MAX
VREF
SW11
MUTE
6dB
ATT
AGC
DET
S.Sep
SW5
C.ADJ2
FBC
P.MUTE(L)
LIM
SW13
LPF1
SW22
SW6
SW9
N.C
R_V_IN
F_V_IN
SW24
TU
SP/LP
L1004, C1011
FILTER
R1003, C1010
Q1016
P.MUTE(L)
SW14
SW3
SVHS
N/S-LPF
SW4
EQ
SW10
SW CTL
I²C Interface
to filter
CR adj
Vcc
IC1002
R1010..R1012
C1041, C1043
R1011, R1013, R1014
C1042, C1044
R1017, R1018, R1020
C1048, C1049
R1016, R1019, R1021
C1047, C1050
LP
SP
NL PROCESS
CN1003
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
CN1001
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
CN1002
REC_C_OUT
VIDEO_VPS/PDC
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE_V
F_V_IN/R_C2_IN
5
4
3
2
1
A
B
C
D
E
F
G
H


03 MAIN (VIDEO,VPS/PDC,TERMINAL)
06 TERMINAL
28 DISPLAY /SW
TO SYSCON
VIDEO _ENV
D.FF
EE (L)
I2C_DATA
I2C_CLK
OSD_CSB2
NOM/MESEC/S
P.MUTE(L)
V.PULSE
VREF/C.SYNC
I2C_CLK2
I2C_DATA2
OSD_P.CTL(L)
B.BACK(H)
TO TUNER
TU_VIDEO
TO SUB CPU
AV1_DV(H)
OSD_DATA
OSD_CLK
OSD_CSB
SOUT_AV1(H)
SOUT_DV(H)
VHS_DV(H)
DV_VHS(H)
TP111 D.FF
TP106 PB FM
IC201
FILTER L202, C204
IC2 (SWITCH)
Q15 Q13, Q14 Q16 Q17 Q152 Q49 Q1 Q6, Q153
L13,C79
BUF EQ ES
NOT USED
X1
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
AUDIO SECTION
VIDEO HEAD
U. DRUM
SP CH2
SP CH1
LP CH2
LP CH1
CN1
IC7106
REG 2.5 V
Y/C MIX -6dB
IC7107 (ON SCREEN DISPLAY)
CHABLK SDATA SCLK CS CV_IN CVOUT MUTE XTAL_IN
Q7113 -Q7119
Q7124-Q7127
Q7129,R7162 L7111,C7161
Q7130
Q7128,R7161 L7110,C7153
SW AMP BUF BUF &LPF
Q7122, Q7123
Q7111, Q7112
IC7103 IC7102 IC7104 IC7105
SOUT_DV(H)
SOUT_AV1(H)
AV1_DV(H)
B.BACK(H)
J7101 S-OUT
IC7114 IC7111 IC7112 IC7110
VHS_DV(H)
DV_VHS(H)
S7101
Q7108 Q7102 Q7103 Q7109 Q7106
Q7137, Q7140 BUF & SW
Q7135, Q7136, Q7138
Q7132,Q7133
J7103 AV2/DECODER
J7102 AV1 IN/OUT
Y IN V OUT V GND C/R G B Y/V_IN Y/V_OUT
IC7113
CLAMP I2C BUS CTL CLK DATA
IC7108
D1 CLAMP GCA SYNC Clamp KEYED PEAK Det LPF AGC
TP7101 DV AGC DET
Q7131
CN7101
R1_Y_IN
R1_C_IN
R1_Y_OUT
R1_C_OUT
Q7104,Q7105
Q7101
TO DV MAIN (V OUT) CN3701
CN7102
Y_PB(DV)
C_PB(DV)
Y/V_REC(DV)
C_REC(DV)
CN7105 CN7505
CN7103 CN7503
CN7104 CN7504
OSD_P.CTL(L)
SOUT_AV1(H)
SOUT_DV(H)
VHS_DV(H)
DV_VHS(H)
CN101
D.FF(V)
I2C_DATA
I2C_CLK
VREF
C.SYNC
fsc
V.PULSE
PB_C_OUT
CN102
REC_C_OUT
VIDEO_VPS/PDC
V_TO_OSD
I2C_CLK
I2C_DATA
SVHS (L)
Y_FROM_AV1
Y_TO_AV1
P.MUTE (L)
Y_TO_SUB
ME_ALC_DET
LINE_V
F_V_IN/R_C2_IN
CN7507 CN1211
J201 S-IN
J202 VIDEO IN
C43
Vcc
1 2 3 4 5
A B C D E F G H

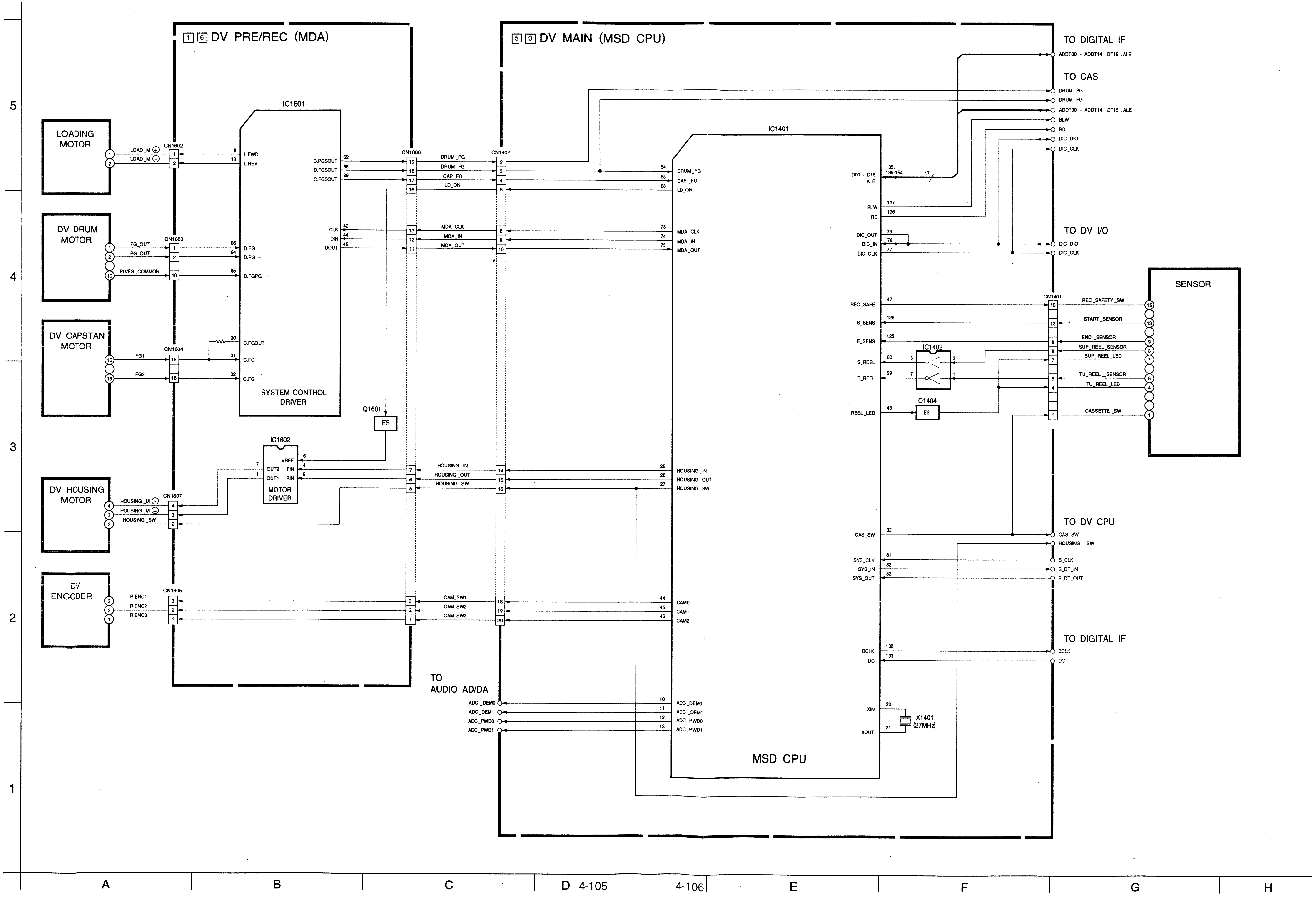
4.40 VIDEO BLOCK DIAGRAM(DV)


50 DV MAIN (DV CPU, CAS, Y/C SEP, DV I/O, EQ DA, DSP, DIGITAL IF, AUDIO AD/DA, V OUT)
TO MSD CPU
S_CLK
S_DT_OUT
S_DT_IN
ADDT0 - 14
DT15
ALE
DIC_DIO
DIC_CLK
SYNC_OFF
EXT_EE(L)
DC
BCLK
MSD_PB(H)
VSYNC(L)
TO VHS MAIN(FMA) CN2601
CN2101
DV_A_REC(L)
DV_A_REC(R)
DV_A_PB(L)
DV_A_PB(R)
IC2101
AINL
AINR
AOUTL
AOUTR
A/D
D/A
SDTO
SDTI
16 bit ADC & DAC
IC3001
Compress Audio Shuffle
SDA
SCK
AIDAT
DODAT
XO
XI
CLK24
DFD0 - 7
BD0-3 SMP
CLK18
SMWS
SMWE
SMCE
SMRS
SMAD0 - 17
X3001
DFD0 - DFD7
IC3002
Shuffle Memory
WS
WE
CE
RS
A0 - A17
DOI1 - DOI8
DIO1 - 8
SIC
SOC
IC3003
ECC DCI ATF
ADDT0 - 14
DT15
ALE
BD0 - 3
SMP
CLK18
CLK450
HSE
PBDAT
RECCLK
PBCLK
ADDAT0 - 6
A0 - A8
DO0 - DO15
WE
RAS
OE
UCAS
LCAS
ADDT00 - ADDT14 , DT15 , ALE
BD0 - BD3 , SMP
IC3004
EDA MEMORY
IC3005
AD CONV.
D1 - 7
AIN
HSE
PB_DATA
REC_CLK
PB_CLK
1+D_OUT
DSF0-DSF7
CLK450K
CLK18M2
CLK18M1
IND
FRG
MSD_PB(H)
DIG_EE(H)
Y/C_IN(H)
S/P_CONV(H)
DIC_DIO
DIC_CLK
SYNC_OFF
J8001
DV IN/OUT
IC8001
TPA+
TPA-
TPB+
TPB-
BCLK
/DC
AD0 - 15
ALE
DBA0 - 3
SMPA
XI
CLK18
CLK18M2
DIGITAL I/F
IC3406
TO TERMINAL CN7102
CN3701
Y_PB(DV)
C_PB(DV)
Y/V_REC(DV)
C_REC(DV)
IC3701
IND
FRG
CLAMP
LPF
ATT
BPF
DV_Y
DV_C
Q3422
Q3421
BUF
IC3405
IC3404
PB_Y
PB_C
Q3302
Q3303,Q3304
Q3307
AMP
Q3308
Q3301
R3369 ~ R3372
C3371, C3373
FILTER
IC3351
HSSI
VSSI
CIN
HDET
Fsc_OUT
IC3303
A_REG_3V
IC3302
Q3404 ~ Q3407 , Q3416 , Q3417
L3410, L3411 , C3443 ~ C3446
R3445, R3446
AMP & FILTER
IC3401
VYIN
Y COMB
3L COMB
YOUT
CIN
FSCIN
PS com/CNR
COUT
VREF
NOT USED
PB
REC
Q3412
L3408, L3409
C3439 ~ C3442
LPF
Q3415
Q3413
L3405, L3406
C3424 ~ C3427
BPF
Q3414
IC3408
IC3407
IC3403
IC3402
Q3420
REC_Y
REC_C
DAC DATA16 , 18 ~ 20
YCGCTL (DAC DATA16)
Y_GCTL,ASPECT,C_GCTL (DAC DATA18 - 20)
1
2
3
4
5
A
B
C
D
E
F
G
H



S_CLK
S_DT_OUT
S_DT_IN
HSE
PB_DATA
REC_CLK
PB_CLK
1+D_OUT
DSF0 DSF7
CLK450K
CLK18M2
CLK18M1
IND
FRG
MSD_PB(H)
DIG_EE(H)
Y/C_IN(H)
S/P_CONV(H)
DIC_DIO
DIC_CLK
SYNC_OFF
PB_Y
PB_C
REC_Y
REC_C
DAC DATA16 .18 - 20
IC1003
SO
SI
SCK
IC1004
SIO
Xin
CLK
Xout
X1002
(32kHz)
IC1001
S_CLK
S_DT_OUT
S_DT_IN
AD0 - AD15
ALE
RE
HWE
LWE
FLDFMC
VD
DAC_CS
V_MUTE
TXD
RXD
JLIP_INT
OSCI
OSCO
X1001
(24MHz)
OSD_CLK
OSD_DATA
OSD_CS
DV CPU
IC1012
Q1001
BUF
D1002
TO
VHS MAIN(SUB CPU)
CN3301
CN1001
RXD
TXD
DV_SEP(H)
DV_S/P_CONV(H)
TO
JIG CONNECTOR
CN1004
SBT
DIG_EE(H)
SBD
TX
RX
IC1002
SBT2
DATA
CS
VC2
BLK2
HD
VD
IC1007
IC4302
2.9Mbit
FIELD MEMORY
D0 - D11
Q0 - Q11
SWCK
RSTW
WE
IE
OE
RE
RSTR
SRCK
IC4301
DSP
TMY0 - TMY7
TMC0 - TMC3
FMY0 - FMY7
FMC0 - FMC3
MCLK
WADO
FMWEO
IEO
RADO
RAEO
FMREO
MAD0 - MAD15
AD0 - AD15
ALE
NRE
NHWE
NLWE
CALE
RE
HWE
LWE
FLDFMC
VDFMC
CPU_VD
OSC27
YVID0 - YVID7
CVID0 - CVID3
YOUT0 - YOUT7
COUT0 - COUT7
Y_PB0 - Y_PB7
C_PB0 - C_PB3
Y_SI0 - Y_SI7
C_SI0 - C_SI7
Q4301 - Q4304
SW
CLK_SW
X4301
(27MHz)
VCO
X4302
(26.995MHz)
VCO
IC3202
DV I/O
DSF0 - DSF7
CLK450K
CLK18M2
CLK18M1
SDIO
SCLK
PBY0 - PBY7
PBC0 - PBC3
YSI0 - YSI7
CSI0 - CSI7
VBLK
EVFHD
YOUT
COUT
AFCSYNC
CLK18IN
CLK27IN
YIN
CIN
CRDAVREF
CBDAVREF
DAC DATA21 .22
Q3202
BUF
Q3201
BUF
Q3205
BUF
CF3201
VCO
IC3204
SYNC SEP IN
H OSC IN1
H OSC IN2
HD
VD
SYNC SEP.
AFC&32fHVCO
IC3206
IC3205
IC3203
Y_IN
C_IN
Y_OUT
C_OUT
DIGITAL
INTERFACE
IC3201
VCO
FSPLLREF
(DAC DATA3)
GCTLC.GCTLY
(DAC DATA14 .15)
IC3503
LD
CLK
DI
AO
EVR DAC
IC3501
PB_EQ
PBCLK
RECCLK
PRE EQ
TFIL IN
LPF
REQ-EQ
AGC IN
TFIL
A-EQ
Error Det
1+D
TFIL OUT
1+D IN
LATCH
PBDAT
DATA DET
ERR1
ERR2
1+D OUT
AMP
1+D OUT
PLL IN
Q3501
Q3503
BUF
CN3501
AGC
HSE
CN9001
1 6 DV PRE/REC
IC9001
PB OUT
3rd AMP
AGC IN
AGC OUT
AGC AMP
HSE
HSW
GCA
RA2
HA2
RA1
HA1
RA2 OUT
HA2 IN
RA1 OUT
HA1 IN
REC AMP & PB AMP
Q9003
BUF
Q9007
BUF
CN9002
R CH(S)
R CH(F)
L CH(S)
L CH(F)
DV HEAD
A
B
C
D
E
F
G
H
1
2
3
4
5

4.41 SYSTEM CONTROL BLOCK DIAGRAM(DV)


1 6 DV PRE/REC (MDA)
5 0 DV MAIN (MSD CPU)
LOADING MOTOR
LOAD_M ⊕
LOAD_M ⊖
CN1602
DV DRUM MOTOR
FG_OUT
PG_OUT
PG/FG_COMMON
CN1603
DV CAPSTAN MOTOR
FG1
FG2
CN1604
DV HOUSING MOTOR
HOUSING_M ⊖
HOUSING_M ⊕
HOUSING_SW
CN1607
DV ENCODER
R.ENC1
R.ENC2
R.ENC3
CN1605
IC1601
L.FWD
L.REV
D.FG −
D.PG −
D.FGPG +
C.FGOUT
C.FG
C.FG +
D.PGSOUT
D.FGSOUT
C.FGSOUT
CLK
DIN
DOUT
SYSTEM CONTROL DRIVER
Q1601
ES
IC1602
VREF
OUT2
OUT1
FIN
RIN
MOTOR DRIVER
CN1606
CN1402
DRUM_PG
DRUM_FG
CAP_FG
LD_ON
MDA_CLK
MDA_IN
MDA_OUT
HOUSING_IN
HOUSING_OUT
HOUSING_SW
CAM_SW1
CAM_SW2
CAM_SW3
IC1401
DRUM_FG
CAP_FG
LD_ON
MDA_CLK
MDA_IN
MDA_OUT
HOUSING_IN
HOUSING_OUT
HOUSING_SW
CAM0
CAM1
CAM2
ADC_DEM0
ADC_DEM1
ADC_PWD0
ADC_PWD1
TO AUDIO AD/DA
D00 - D15
ALE
BLW
RD
DIC_OUT
DIC_IN
DIC_CLK
REC_SAFE
S_SENS
E_SENS
S_REEL
T_REEL
REEL_LED
IC1402
Q1404
ES
CAS_SW
SYS_CLK
SYS_IN
SYS_OUT
BCLK
DC
XIN
XOUT
X1401 (27MHz)
MSD CPU
TO DIGITAL IF
ADDT00 - ADDT14 .DT15 . ALE
TO CAS
DRUM_PG
DRUM_FG
ADDT00 - ADDT14 .DT15 . ALE
BLW
RD
DIC_DIO
DIC_CLK
TO DV I/O
DIC_DIO
DIC_CLK
CN1401
REC_SAFETY_SW
START_SENSOR
END_SENSOR
SUP_REEL_SENSOR
SUP_REEL_LED
TU_REEL_SENSOR
TU_REEL_LED
CASSETTE_SW
SENSOR
TO DV CPU
CAS_SW
HOUSING_SW
S_CLK
S_DT_IN
S_DT_OUT
TO DIGITAL IF
BCLK
DC
5
4
3
2
1
A
B
C
D
E
F
G
H

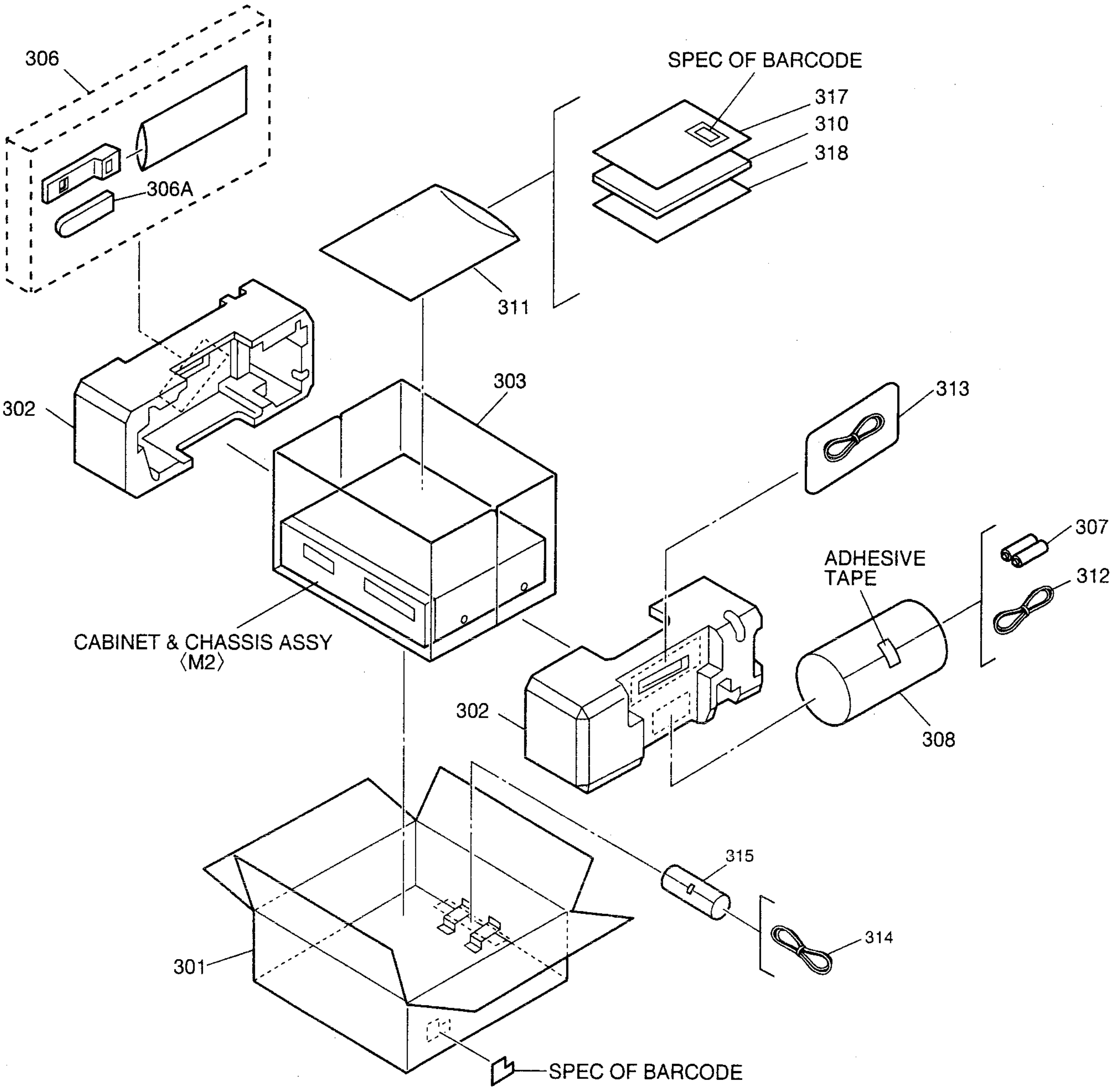
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.


306
306A
SPEC OF BARCODE
317
310
318
311
302
303
313
307
ADHESIVE TAPE
312
CABINET & CHASSIS ASSY ⟨M2⟩
302
308
315
314
301
SPEC OF BARCODE

* *

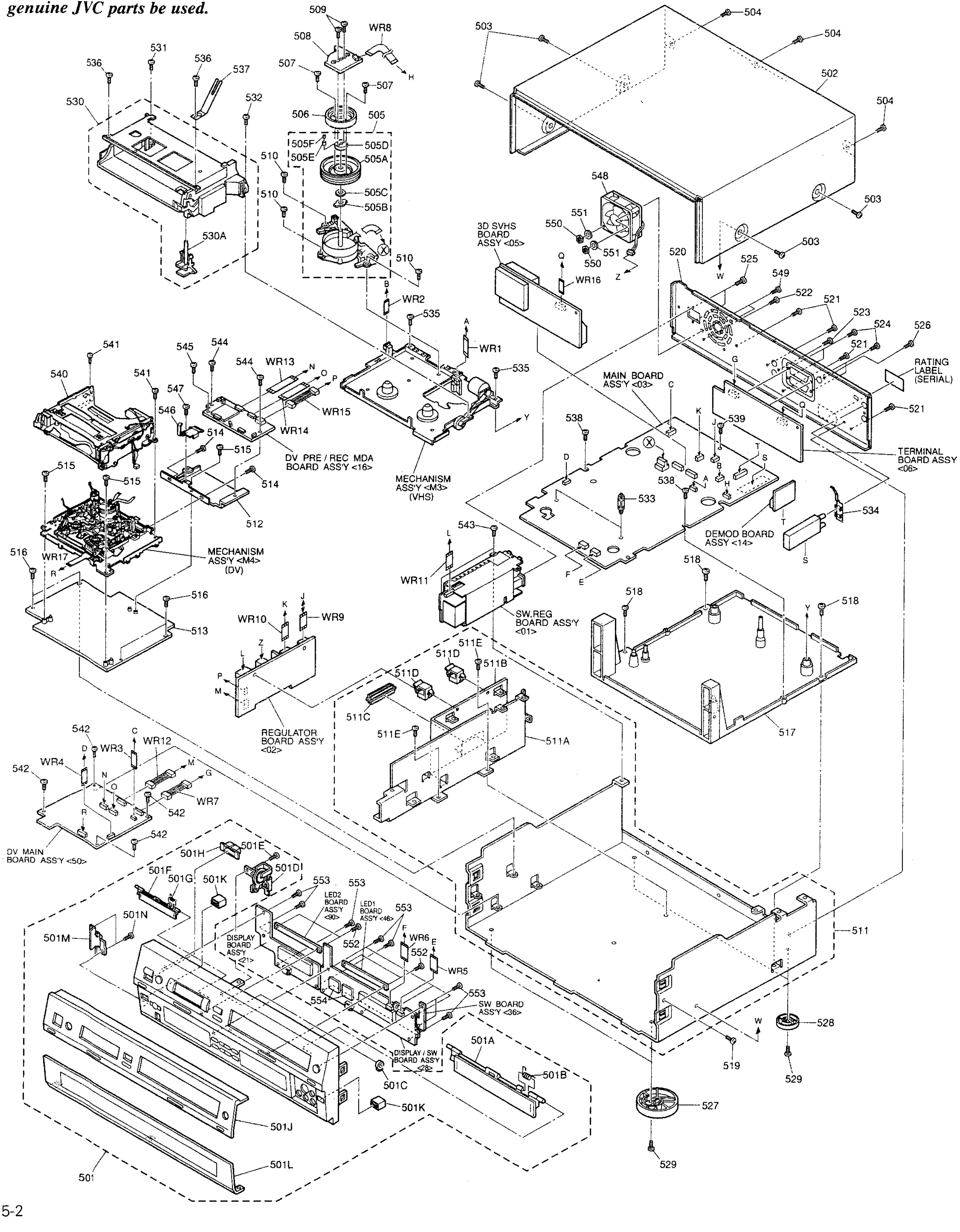
PACKING AND ACCESSORY ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	301	LP30645-002A	PACKING CASE
	302	LP30397-001B	CUSHION ASSY
	303	PQM30021-95	POLY BAG
	306	LP20465-005B	REMOTE CONTROLLER
	306A	LP40254-005A	COVER(BATTERY)
	307	–	BATTERY,X2 ("AA"TYPE)
	308	QPC02202215P	POLY BAG
⚠	310	LPT0338-001A	INST.BOOK(EN)
	311	QPC02503515P	POLY BAG
	312	PEAC0300-02	RF CABLE
	313	QAM0020-001	PERI CABLE
⚠	314	QMP51H0-183	POWER CORD
	315	QPA01003503	POLY BAG
	317	BT-54008-2	GUARANTY CARD
	318	LP20790-001A	QUESTIONAIRE CARD

5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



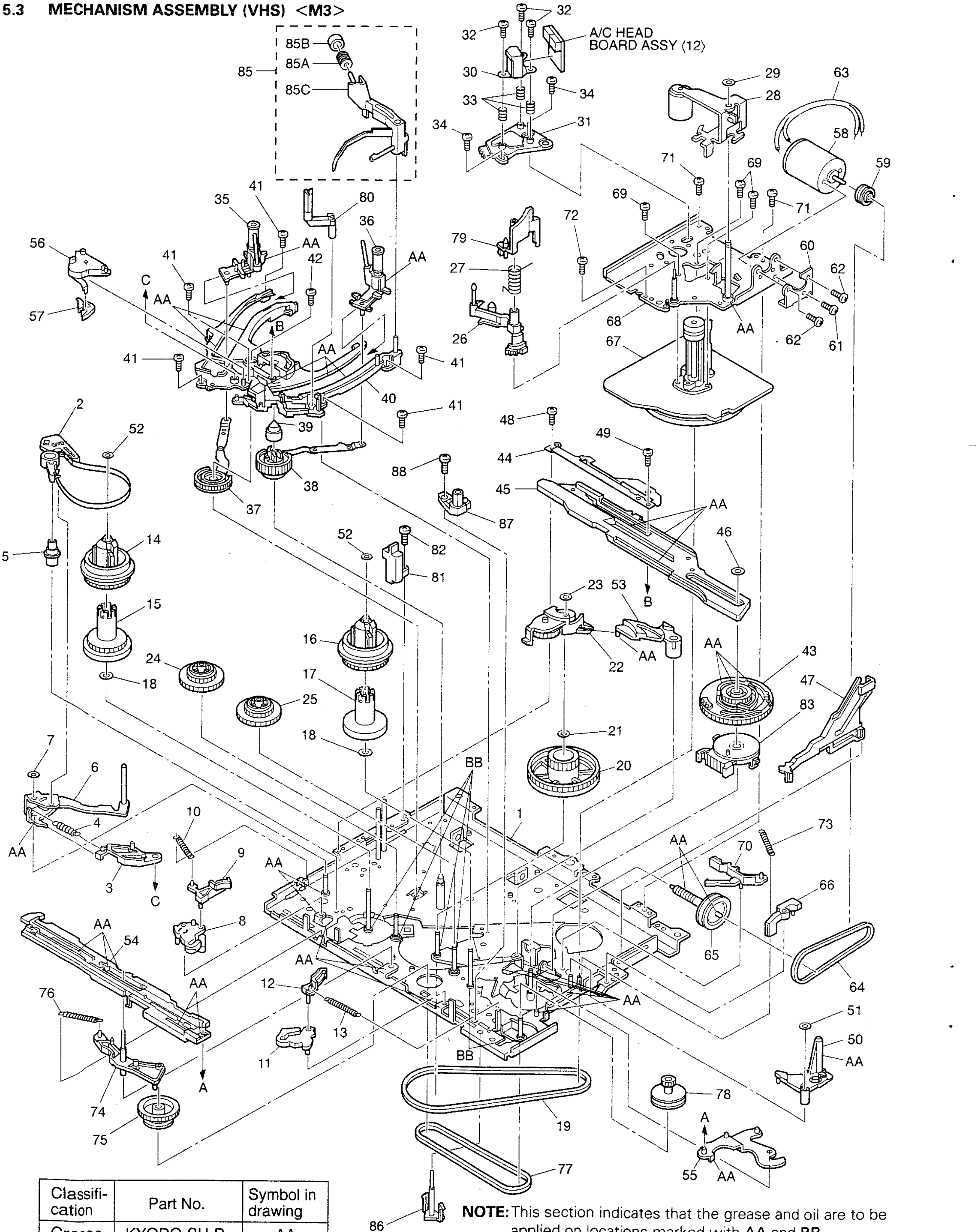
509
WR8
508
507
507
506
505
505F
505D
505E
505A
505C
505B
510
510
510
531
536
536
537
530
532
530A
503
504
504
502
504
503
503
548
551
550
551
550
3D SVHS BOARD ASSY <05>
WR16
WR2
535
WR1
535
520
525
549
522
521
523
524
526
521
521
RATING LABEL (SERIAL)
TERMINAL BOARD ASSY <06>
MAIN BOARD ASS'Y <03>
539
538
538
533
534
DEMOD BOARD ASSY <14>
541
540
541
545
544
544
WR13
547
546
WR15
WR14
514
515
514
515
515
512
DV PRE / REC MDA BOARD ASS'Y <16>
MECHANISM ASS'Y <M3> (VHS)
MECHANISM ASS'Y <M4> (DV)
516
WR17
516
513
543
WR11
SW.REG BOARD ASS'Y <01>
518
518
518
517
WR10
WR9
REGULATOR BOARD ASS'Y <02>
511E
511D
511B
511D
511C
511E
511A
542
WR3
WR12
WR4
542
WR7
542
542
DV MAIN BOARD ASS'Y <50>
501H
501E
501D
501F
501G
501K
553
553
LED2 BOARD ASS'Y <90>
LED1 BOARD ASS'Y <46>
553
501N
501M
DISPLAY BOARD ASS'Y <21>
552
WR6
552
WR5
553
554
SW BOARD ASS'Y <36>
DISPLAY / SW BOARD ASS'Y <28>
501A
501B
501C
501K
501J
501L
501
511
519
528
529
527
529

****

CABINET AND CHASSIS ASSEMBLY <M2>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	501	LP10144-003A	FRONT PANEL ASSY
	501A	LP20249-009A	CASSETTE HOUSING DOOR
	501B	PQ46448	TORSION SPRING
	501C	LP40157-001A	GEAR(C.H.DOOR)
	501D	LP40158-001B	DAMPER ASSY
	501E	QYTDSF2606Z	SCREW,DAMPER
	501F	LP30387-002A	CASSETTE DOOR,DV
	501G	LP40360-001A	TORSION SPRING,DV
	501H	LP40390-001A	PLATE(IR)
	501J	LP10149-002A	COVER(FRONT)
	501K	PEME0879	MAGNET ASSY,X2
	501L	LP10146-003A	DOOR ASSY
	501M	LP40361-001A	DAMPER(L)ASSY,DOOR
	501N	QYTDSF2606Z	SCREW,X2 DAMPER(L)
⚠	502	LP10128-002B	TOP COVER
	503	QYTDST3006R	SCREW,X4 TOP COVER(SIDE)
	504	QYTDST3006R	SCREW,X3 TOP COVER(REAR)
	505	LP20053-007A	DRUM SUB ASSY
	505A	LP20030-017A	UPPER DRUM ASSY
	505B	PDM4439	CAP
	505C	PDM4444-19-2	WASHER
	505D	LP40572-001A	COLLAR ASSY
	505E	LP40323-001A	CONTACT
	505F	LP30004-014A	COMPRESSION SPRING
	506	PDZ0179-1-4	ROTOR ASSY
	507	QYSPSP3006Z	SCREW,X2
	508	PDZ0180-1-2	STATOR ASSY
	509	QYSPSPH2606Z	SCREW,X2
	510	QYTDST2610Z	SCREW,X3 DRUM
⚠	511	LP10156-002A	BOTTOM CHASSIS ASSY
	511A	LP10130-002A	BRACKET(1)
	511B	LP20355-001A	BRACKET(2)
	511C	QZW0016-001	PC SUPPORT
	511D	QZW0017-001	PC SUPPORT,X2
	511E	QYTDST3006Z	SCREW,X7
	512	LP30352-001B	BRACKET,DV MECHA
	513	LP20359-001B	BASE(2),DV MECHA
	514	QYTDST2004Z	SCREW,X2 DV MECHA
	515	QYTDSF2606Z	SCREW,X3 DV MECHA
	516	QYTDST3006Z	SCREW,X4 BASE(2)
	517	LP20357-001C	BASE(1),VHS
	518	QYTDST3006Z	SCREW,X3 BASE(1)
	519	QYTDSF3010Z	SCREW,BOTTOM CHASSIS
⚠	520	LP10129-002A	REAR COVER
	521	QYTDST3006M	SCREW,X4 REAR COVER
	522	QYTDST3006M	SCREW,REAR COVER
	523	QYTDSF3008M	SCREW,JACK
	524	QYTDSF3008M	SCREW,X4 PERI
	525	QYTDSG3008M	SCREW,X2 IN/OUT LET
	526	QYTDSF3008M	SCREW,S JACK
	527	PQ46617A-1	FOOT ASSY,X2
	528	PQ35504	FOOT(2),X2
	529	QYTDST3006Z	SCREW,X4 FOOT
	530	PUS29724E	CASSETTE HOUSING ASSY,VHS
	530A	PQ46359-1-1	CASSETTE SWITCH PIN
	531	SPST2606Z	SCREW,CASSETTE HOUSING ASSY
	532	SDST2610Z	SCREW,CASSETTE HOUSING ASSY
	533	PEME0947-01-01	SPACER,X2 MECHA
	534	PQ21623-2-5	EARTH PLATE(RF)
	535	QYTDSF4012Z	SCREW,X2 MECHA(VHS)
	536	QYTDSF3010Z	SCREW,X2 CASSETTE HOUSING(VHS)
	537	PQ41556	EARTH PLATE,CASSETTE HOUSING(VHS)
	538	QYTDSF3010Z	SCREW,X2 MAIN(VHS)
	539	QYTDST3006Z	SCREW,MAIN(VHS)
	540	LY30428-001E	CASSETTE HOUSING ASSY
	541	QYTDSP2004Z	SCREW,X2 CASSETTE HOUSING,DV
	542	QYTDST3006Z	SCREW,X4 MAIN,DV
	543	QYTDST3006Z	SCREW,X2 SW.REG
	544	QYTDST3006Z	SCREW,X2 PRE/REC MDA
	545	QYTDST2005Z	SCREW,PRE/REC MDA
	546	LP30553-001A	EARTH PLATE,DV
	547	QYTDST2004Z	SCREW,EARTH PLATE
	548	QAR0095-001	FAN MOTOR
	549	QYTDSP4020M	SCREW,X2 FAN MOTOR
	550	QYNNS4000Z	NUT,X2 FAN MOTOR
	551	QYWLS4277A0Z	SPRING WASHER,X2 FAN MOTOR
	552	QYTDSF2606Z	SCREW,X4 LED UNIT
	553	QYTDSF2606Z	SCREW,X12 FRONT BOARD
	554	PU59915-110	#500SPACER0.014
	WR1	QUM037-13BFBF	PARA RIBON WIRE,A/C HEAD CN20
	WR2	QUP012-32AHAH	PARA RIB S WIRE,FE HEAD CN200
	WR3	QUQ210-0834CC	FFC WIRE,DV MAIN CN2601
	WR4	QUQ210-1017CC	FFC WIRE,DV MAIN CN3301
	WR5	QUQ112-1010CG	FFC WIRE,VHS FRONT CN702
	WR6	QUQ112-1110CG	FFC WIRE,VHS FRONT CN1
	WR7	QJN009-093221	E-SH C WIRE C-C,DV MAIN CN710
	WR8	QUQ212-0524CG	FFC WIRE,DRUM MOTOR,CN3001
	WR9	QUQ212-1328CG	FFC WIRE,REG CN7508
	WR10	QUQ212-1228CG	FFC WIRE,REG CN7509
	WR11	QUQ212-1913CG	FFC WIRE,REG CN5201
	WR12	QJJ001-071002	SIN CR C-C WIRE,REG CN1002
	WR13	QUQ105-2010AA	FFC WIRE,DV PRE/REC CN3501
	WR14	QUQ105-2010AA	FFC WIRE,DV PRE/REC CN1402
	WR15	QJJ001-051200	SIN CR C-C WIRE,DV PRE/REC CN5325
	WR16	QUQ112-0710CG	FFC WIRE,TERMINAL CN1003
	WR17	WJT0012-001B	E-CARD WIRE,DV FRONT CN1401

5.3 MECHANISM ASSEMBLY (VHS) <M3>


85B
85A
85
85C
32
32
A/C HEAD
BOARD ASSY ⟨12⟩
30
34
33
34
31
29
63
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71
69
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71
72
79
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26
60
62
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AA
62
61
67
35
41
80
36
56
41
AA
42
AA
C
AA
B
57
41
AA
41
40
41
2
52
39
38
37
48
49
44
88
45
AA
87
46
52
82
5
14
81
15
23
53
B
16
22
AA
24
18
17
25
18
AA
43
47
83
21
20
7
6
4
AA
3
C
10
9
8
BB
1
AA
AA
70
73
66
65
64
AA
54
76
AA
12
13
11
BB
AA
A
74
75
AA
19
51
50
AA
78
A
55
AA
77
86

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

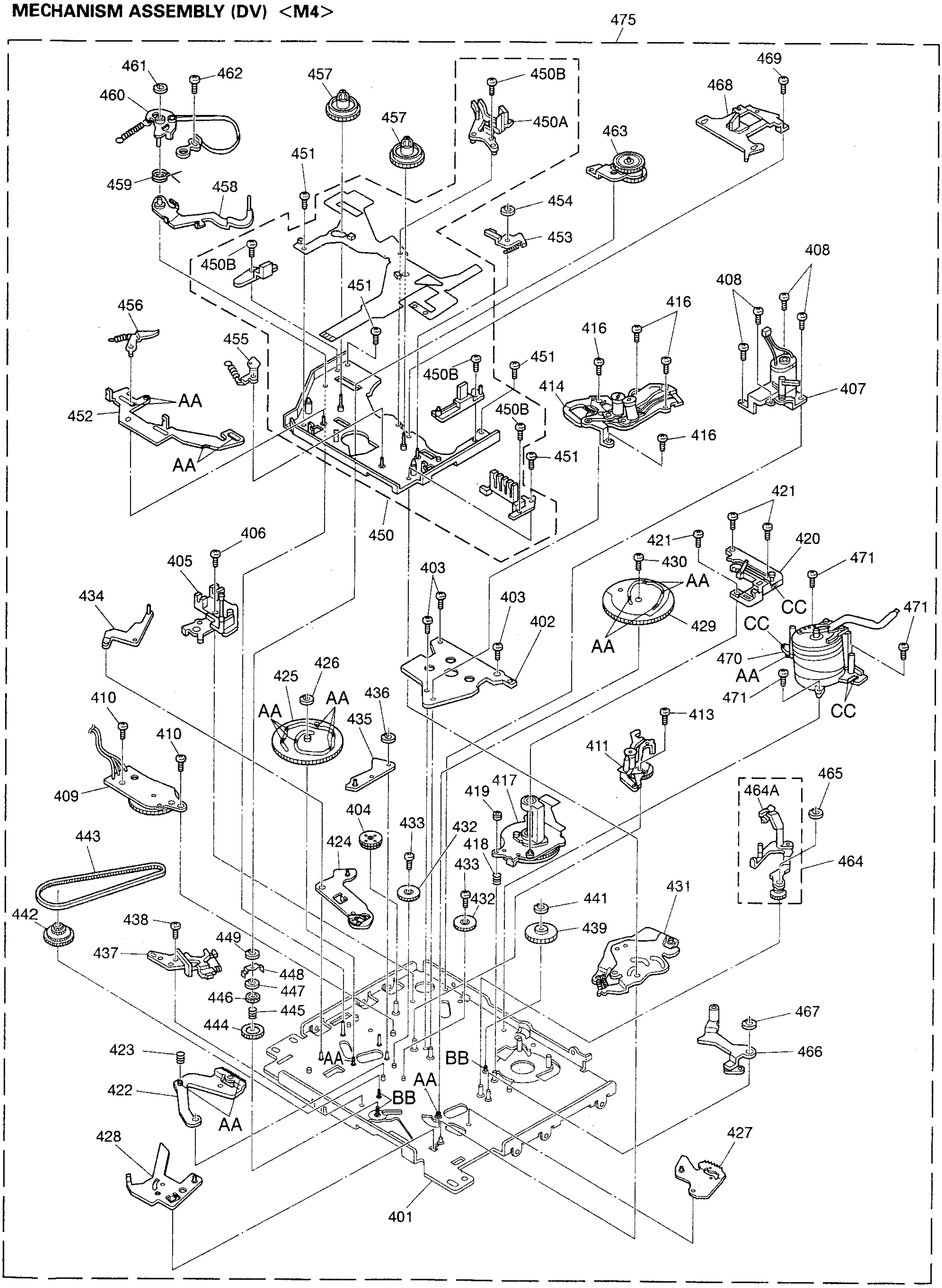
NOTE: This section indicates that the grease and oil are to be applied on locations marked with **AA** and **BB**.
During checking and servicing, check if grease has been applied on the locations marked with **AA** and oil on the locations marked with **BB**.

****

MECHANISM ASSEMBLY(VHS) <M3>

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
		1	PQ21680L-24	MAIN DECK ASSY
		2	LP40006-001B	TENSION BAND ASSEMBLY
		3	PQ35012-1-5	TENSION ARM LEVER
		4	PQM30001-385109	TENSION SPRING
		5	LP30103-001B	ADJUST PIN
		6	PQ46303A-8	TENSION ARM ASSEMBLY
		7	PQM30017-47	SLIT WASHER
		8	PQ46305B-3	MAIN BRAKE ASSY (SUPPLY)
		9	PQ46306A-6	SUB BRAKE ASSEMBLY(SUPPLY)
		10	PQM30001-393	TENSION SPRING
		11	PQ46308A-5	MAIN BRAKE ASSEMBLY(TAKE UP)
		12	PQ46309A-4	SUB BRAKE ASSEMBLY(TAKE UP)
		13	PQM30001-389102	TENSION SPRING
		14	PQ46551B	REEL DISK ASSEMBLY(SUPPLY)
		15	PQ35436	SLIT DISK(SUPPLY)
		16	PQ46551B	REEL DISK ASSEMBLY(TAKE UP)
		17	PQ35437	SLIT DISK(TAKE UP)
		18	PQM30018-79	SPACER,X2
		19	PQM30003-38	BELT,CAPSTEN
		20	PQ46497B-2	PULLEY ASSY
		21	PQM30018-69	SPACER
		22	PQ46312C-15	IDLER ARM ASSY
		23	PQM30017-34	SLIT WASHER
		24	PQ46316C-6	CLUTCH UNIT(SUPPLY)
		25	PQ46323A-1	CLUTCH UNIT(TAKE UP)
		26	PQ46325C-9	GUIDE ARM ASSY
		27	PQ46326-2	TORSION SPRING
		28	PQ46327A-4	PINCH ROLLER ARM ASSY
		29	PQM30017-24	SLIT WASHER,P.LEVER
		30	PEHE0182	AUDIO CONTROL HEAD
		31	PQ35206-1-3	HEAD BASE
		32	PQ43687A	SPECIAL SCREW,X3 A/C HEAD
		33	PQM30002-192	COMPRESSION SPRING,X3
		34	SDSP2604Z	SCREW,X2 A/C HEAD
		35	PQ46595B-5	POLE BASE ASSY(SUPPLY)
		36	PQ46331C	POLE BASE ASSY(TAKE UP)
		37	PQ46332B-3	LOADING ARM ASSEMBLY(SUPPLY)
		38	PQ46337C	LOADING ARM ASSEMBLY(TAKE UP)
		39	PQ46767-1-2	GUIDE CAP
		40	PQ11657-1-9	GUIDE RAIL
		41	SPST2608Z	SCREW,X5 GUIDE RAIL
		42	SDST2612Z	SCREW,GUIDE RAIL
		43	LP20003-001A	CONTROL CAM
		44	PQ35138-1-2	CONTROL BRACKET
		45	LP10004-001C	CONTROL PLATE
		46	PQM30017-8	SLIT WASHER
		47	PQ21685-2-10	PINCH PLATE
		48	SPST2606Z	SCREW,CONTROL COM
		49	SPSF2608M	SCREW,CONTROL BRACKET
		50	PQ46342D-10	LEVER ASSY
		51	PQM30017-8	SLIT WASHER
		52	PQM30017-47	SLIT WASHER,X2
		53	PQ35026-1-7	IDLER LEVER
		54	PQ11659-1-14	SLIDE PLATE
		55	LP40014-001A	CHANGE LEVER ASSEMBLY
		56	PQ21686-1-3	TAKE UP LEVER
		57	PQ46345-1-2	TAKE UP HEAD
		58	PU60628-3-2	LOADING MOTOR
		59	PQ43546-1-2	MOTOR PULLEY
		60	PQ46568-1-2	MOTOR GUIDE
		61	SDSP2604Z	SCREW,SUB DECK ASSY
		62	SPSP3005Z	SCREW,X2 MOTOR GUIDE
		63	PW30101-80AJ632	WIRE
		64	LP30005-002A	BELT,LOADING MOTOR
		65	PQ46395B	WORM GEAR ASSY
		66	PQ21699-1-2	WORM BEARING
		67	PU61487-2-5	CAPSTAN MOTOR
		68	PQ46347G	SUB DECK ASSY
		69	SPSG2608Z	SCREW,X3 CAPSTAN MOTOR
		70	PQ46356C-4	CAPSTAN BRAKE ASSEMBLY
		71	SPST2606Z	SCREW,X2 SUB DECK/DEW SENSOR
		72	SDSP2604Z	SCREW,MOTOR GUIDE
		73	LP30003-005A	TENSION SPRING,CAPSTEN BRAKE
		74	PQ46353B	CHANGE ARM ASSEMBLY
		75	PQ46354	CHANGE GEAR
		76	PQM30001-386	TENSION SPRING
		77	PQM30003-40	BELT,CHANGE GEAR
		78	LP40008-001B	CASSETTE GEAR
		79	PQ35030-1-5	LID GUIDE
		80	LP20032-001A	LED PRISM
		81	PEHE0237	FULL ERASE HEAD
		82	SDST2610Z	SCREW,FE HEAD
		83	PU61432-1-2	ROTARY ENCODER
		85	PQ46436A-1	CLEANER ASSY
		85A	PQ46418-1-2	CLEANER ROLLER
		85B	PQ46419-1-2	CLEANER
		85C	PQ35159-1-1	CLEANER ARM
		86	PQ46473-1-1	S-SW PIN
		87	PQ46474-1-2	S-SW HOLDER
		88	SPST2606Z	SCREW

5.4 MECHANISM ASSEMBLY (DV) <M4>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BB
AA
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401

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB
Grease	RX-410R	CC

NOTES:
- This section indicates that the grease and oil are to be applied on locations marked with **AA**, **BB** and **CC**.
  During checking and servicing, check if grease has been applied on the locations marked with **AA**, **CC** and oil on the locations marked with **BB**.
- Apply also grease and oil on some locations in the main cam gear and the cam groove at the rear side of the sub cam gear.

✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

MECHANISM ASSEMBLY(DV) <M4>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		401	LY10062-001B	MAIN DECK ASSY
		402	LY30358-001A	DRUM BASE DECK
		403	YQ43893	MINI SCREW,X3
		404	LY30343-001A	WORM WHEEL 2
		405	LY40237-001C	ENT.GUIDE BASE ASSY
		406	YQ43893	MINI SCREW
		407	LY30340-001B	MOTOR BRACKET ASSY
		408	YQ43893	MINI SCREW,X4
		409	LY41190-001B	ROTARY ENCODER ASSY
		410	YQ43893	MINI SCREW,X2
		411	YQ31873B-30	GUIDE RAIL ASSY(SUPPLY)
		413	YQ43893	MINI SCREW
		414	LY20097-001B	GUIDE RAIL ASSY(TAKE UP)
		416	YQ43893	MINI SCREW,X4
		417	QAR0012-002	CAPSTAN MOTOR
		418	LY30002-003A	COMPRESSION SPRING
		419	LY41390-001A	ADJUST NUT
		420	LY30345-001A	MIDDLE CATCHER ASSY
		421	YQ43893	MINI SCREW,X3
		422	LY40223-001A	ARM GEAR 1 ASSY
		423	LY40224-001A	COLLAR
		424	LY40235-002B	CENTERRING ARM ASSY
		425	LY10060-002A	MAIN CAM
		426	YQ44246	SLIT WASHER
		427	LY40279-001A	ARM GEAR 2 ASSY
		428	LY40228-001A	CLUTCH LOCK LEVER ASSY
		429	LY20102-001A	SUB CAM
		430	YQ43893	MINI SCREW
		431	LY30347-001A	CHARGE ARM ASSY
		432	YQ44560-1-2	CONNECT GEAR 2
		433	YQ43893	MINI SCREW
		434	LY40236-001A	TENSION CONTROL ARM ASSY
		435	LY40233-001A	BRAKE CONTROL ARM ASSY
		436	YQ44246	SLIT WASHER
		437	LY40242-001C	BASE PLATE ASSY
		438	YQ43893	MINI SCREW
		439	YQ43931A	REEL DRIVE PULLEY ASSY
		441	YQ44246	SLIT WASHER
		442	LY40239-001B	CENTER GEAR ASSY
		443	LY40241-001A	TIMING BELT
		444	LY40246-001A	CLUTCH LOCK GEAR (1)
		445	LY30002-009A	COMPRESSION SPRING
		446	LY40247-001A	CLUTCH LOCK GEAR (2)
		447	YQ43933-2	WASHER
		448	LY40248-001A	PUSH PLATE
		449	YQ44246	SLIT WASHER
		450	LYH30012-001A	SUB DECK ASSY(G)
		450A	LY20108-001B	PRISM
		450B	YQ43893	MINI SCREW
		451	YQ43893	MINI SCREW,X4
		452	LY20109-001B	CONTROL PLATE
		453	LY40257-001A	SUB BRAKE ASSY
		454	YQ44246	SLIT WASHER
		455	LY40259-001A	MAIN BRAKE ASSY(TAKE UP)
		456	LY40260-001B	MAIN BRAKE ASSY(SUPPLY)
		457	LY40255-001A	REEL DISK ASSY
		458	LY41245-001B	TENSION ARM SUB ASSY
		459	LY41243-001A	TORSION SPRING
		460	LY41246-001C	BAND ARM PLATE SUB ASSY
		461	YQ44246-3	SLIT WASHER
		462	YQ43893-7	MINI SCREW
		463	LY30370-001D	SWING ARM ASSY
		464	LY30380-001D	EXIT GUIDE ARM ASSY
		464A	LY41250-001A	CLEANER ARM ASSY
		465	YQ44246	SLIT WASHER
		466	LY30374-001B	PINCH ROLLER ARM ASSY
		467	YQ44246	SLIT WASHER
		468	LY40280-001B	REEL COVER ASSY
		469	YQ43893	MINI SCREW
		470	YDV2089B	DRUM ASSY
		471	YQ43893	MINI SCREW,X3
		475	YMA0024A	MECHA ASSY(C)

5.5 ELECTRICAL PARTS LIST

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SW REGULATOR BOARD ASSEMBLY <01>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	LPA10082-01C1	SW.REGULATOR BOARD ASSY	
	IC5101	STR-F6552	IC	
	IC5301	L5431	IC	
	Q5301	2SD1819A/RS/-X	TRANSISTOR	
		or 2SC4081/RS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q5302	DTA114EU	TRANSISTOR	
		or PDTA114EU	TRANSISTOR	
		or RN2302	TRANSISTOR	
		or UN5111	TRANSISTOR	
	D5001	RBV-406	BRIDGE DIODE	
	D5101	AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS4	FR DIODE	
	D5102	AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS4	FR DIODE	
	D5103	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
	D5105	AK04	DIODE	
	D5106	1SS133	DIODE	
	D5201	AK04	DIODE	
		or 1S4	SB DIODE	
		or 11EQS04	SB DIODE	
	D5202	FML-12S	FR DIODE	
		or MA644	FR DIODE	
		or YG901C2	FR DIODE	
		or FCF06A20	FR DIODE	
	D5203	FMB-24	BARRIER DIODE	
		or FSQ05A04B	SB DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
	D5204	1SR153-400-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS2	FR DIODE	
		or ERA18-02-T2	FR DIODE	
	D5206	FMB-24	BARRIER DIODE	
		or FSQ05A04B	SB DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
	D5207	FMB-24	BARRIER DIODE	
		or FSQ05A04B	SB DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
	D5210	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
	D5211	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
	D5301	MTZJ15A	ZENER DIODE	
		or RD15ES/B1/-T2	ZENER DIODE	
	D5303	MTZJ12C	ZENER DIODE	
		or RD12ES/B3/-T2	ZENER DIODE	
	D5304	1SS133	DIODE	
	D5305	MTZJ27C	ZENER DIODE	
		or RD27ES/B3/-T2	ZENER DIODE	
	D5306	MTZJ2.7B	ZENER DIODE	
		or RD2.7ES/B2/-T2	ZENER DIODE	
	D5307	1SS133	DIODE	
	D5308	1SS133	DIODE	
	D5309	1SS133	DIODE	
	D5310	1SS133	DIODE	
	D5311	1SS133	DIODE	
	D5312	1SS133	DIODE	
	R5101	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
	R5102	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R5103	QRE141J-100Y	RESISTOR	10Ω,1/4W
	R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
	R5106	QRT01DJ-R47X	MF RESISTOR	0.47Ω,1W
	R5108	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
	R5302	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5303	QRA14CF-1182Y	CMF RESISTOR	11.8kΩ,1/4W
	R5304	QRA14CF-3011Y	CMF RESISTOR	3.01kΩ,1/4W
	R5305	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
⚠	R5306	QRZ9005-470X	FUSI RESISTOR	47Ω,1/4W
	R5307	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R5308	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5309	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R5310	QRL02DJ-821X	OMF RESISTOR	820Ω,2W
	R5311	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R5313	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R5314	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5316	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5317	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
⚠	C5001	QFZ9073-683	F CAPACITOR	0.068μF,250V
⚠	C5002	QFZ9051-333	F CAPACITOR	0.033μF,250V
⚠	C5005	QCZ9071-222	CAPACITOR	0.0022μF,250V
	C5006	QEZ0455-157	E CAPACITOR	150μF,400V
	C5101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
	C5103	QEMU1EM-396	E CAPACITOR	39μF,25V
	C5104	QCZ0136-151Z	CAPACITOR	150pF,1KV
	C5105	QFLA1HJ-471Z	F CAPACITOR	470pF,50V
	C5201	QEMU0JM-227	E CAPACITOR	220μF,6.3V
	C5202	QEMT1CM-827	E CAPACITOR	820μF,16V
	C5203	QETN1CM-227	E CAPACITOR	220μF,16V
	C5204	QEMT1AM-278	E CAPACITOR	2700μF,10V
	C5205	QETN1AM-227	E CAPACITOR	220μF,10V
	C5206	QEMU1EM-187	E CAPACITOR	180μF,25V
	C5207	QETN2AM-475	E CAPACITOR	4.7μF,100V
	C5208	QEMU1HM-186	E CAPACITOR	18μF,50V
	C5210	QEMT1AM-687	E CAPACITOR	680μF,10V
	C5211	QETN1AM-227	E CAPACITOR	220μF,10V
	C5212	QEMT1AM-128	E CAPACITOR	1200μF,10V
	C5213	QETN1AM-227	E CAPACITOR	220μF,10V
	C5301	QFLC1HJ-103Z	F CAPACITOR	0.01μF,50V
	C5302	QFLC1HJ-473Z	F CAPACITOR	0.047μF,50V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C5303	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
	C5304	QETN1AM-476	E CAPACITOR	47µF,10V
	C5305	QFLC1HJ-103Z	F CAPACITOR	0.01µF,50V
	L5201	PELN1184	COIL	33µH
	L5202	PU60944-330K	COIL	33µH
	L5203	PELN1184	COIL	33µH
	L5204	PELN1184	COIL	33µH
	K5101	QQR0678-001Z	FERRITE BEAD	
⚠	PC5101	PC123F2	PH COUPLER	
⚠	T5001	QQS0049-001	SW TRANSFORMER	
	HS1	PEME0889-01-01	HEAT SINK,IC5101	
	HS2	PQ46006-1-1	HEAT SINK(2)	
	SD1	PQ21503-3	SHIELD CASE(REG)	
	SD2	PQ34638-1-4	SHIELD COVER(REG)	
	OT1	PU60010-2	SPACER	
⚠	OT2	LP40600-001A	SHEET(SW.REG)	
	OT3	QYTDST3008Z	SCREW,X6	
	OT4	QYTDST3010Z	SCREW,IC5101	
	FC5001	QNG0006-001Z	FUSE CLIP,F5001	
	FC5002	QNG0006-001Z	FUSE CLIP,F5001	
⚠	LF5001	PELN1204-01-01	LINE FILTER	
⚠	LF5002	QQR1031-001	LINE FILTER	
⚠	CN5001	PEMC1067	AC INLET	
	CN5201	QGF1208F1-19	FPC CONNECTOR,(1-19)REG	
⚠	CP5305	ICP-N25	CIRCUIT PROTECTOR	
⚠	F5001	QMF51E2-2R0J1	FUSE	T2.0A,AC250V

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REGULATOR BOARD ASSEMBLY <02>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	LPA10082-01C2	REGULATOR BOARD ASSY	
	IC5321	PQ15RW11	IC	
	Q5321	2SD2528/QP/	TRANSISTOR	
	Q5322	2SD1819A/RS/-X	TRANSISTOR	
		or 2SC4081/RS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q5323	2SA933AS/RS/-T	TRANSISTOR	
		or 2SA1267/YG/-T	TRANSISTOR	
	Q5324	DTC114EU	TRANSISTOR	
		or PDTC114EU	TRANSISTOR	
		or RN1302	TRANSISTOR	
		or UN5211	TRANSISTOR	
	Q5325	2SD2375/QP/	TRANSISTOR	
	Q5326	2SD2375/QP/	TRANSISTOR	
	Q5327	2SD1819A/RS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/RS/-X	TRANSISTOR	
	Q5328	2SD2375/QP/	TRANSISTOR	
	Q5329	DTA114EU	TRANSISTOR	
		or PDTA114EU	TRANSISTOR	
		or RN2302	TRANSISTOR	
		or UN5111	TRANSISTOR	
	Q5330	2SD2144S/UV/-T	TRANSISTOR	
	Q5331	2SB1068/KU/-T	TRANSISTOR	
	Q5332	DTC114EU	TRANSISTOR	
		or PDTC114EU	TRANSISTOR	
		or RN1302	TRANSISTOR	
		or UN5211	TRANSISTOR	
	Q5333	2SD1450/ST/-T	TRANSISTOR	
		or 2SD1302/ST/-T	TRANSISTOR	
	Q5334	DTA114EU	TRANSISTOR	
		or PDTA114EU	TRANSISTOR	
		or RN2302	TRANSISTOR	
		or UN5111	TRANSISTOR	
	Q5335	2SB1256	TRANSISTOR	
	Q5336	DTC114TU	TRANSISTOR	
		or UN5215	TRANSISTOR	
	Q5337	2SB1256	TRANSISTOR	
	Q5338	2SA1576A/RS/-X	TRANSISTOR	
	Q5339	2SD2144S/UV/-T	TRANSISTOR	
	Q5340	DTA114EU	TRANSISTOR	
		or PDTA114EU	TRANSISTOR	
		or UN5111	TRANSISTOR	
		or RN2302	TRANSISTOR	
	Q5341	DTC114EU	TRANSISTOR	
		or RN1302	TRANSISTOR	
		or UN5211	TRANSISTOR	
		or PDTC114EU	TRANSISTOR	
	D5321	1SS133	DIODE	
	D5322	1SS133	DIODE	
	D5323	11ES2	DIODE	
		or ERA15-02-T2	DIODE	
	D5324	11ES2	DIODE	
		or ERA15-02-T2	DIODE	
	D5325	RD5.1JS/B2/-T2	ZENER DIODE	
		or MA4051N/M/-T2	ZENER DIODE	
	D5326	1SS133	DIODE	
	D5327	RD5.1JS/B2/-T2	ZENER DIODE	
		or MA4051N/M/-T2	ZENER DIODE	
	D5328	1SS133	DIODE	
	D5329	1SS133	DIODE	
	D5330	1SS133	DIODE	
	D5331	1SS133	DIODE	
	D5332	1SS133	DIODE	
	D5333	1SS133	DIODE	
	D5334	11ES2	DIODE	
		or ERA15-02-T2	DIODE	
	D5335	1SS133	DIODE	
	D5336	MTZJ12A	ZENER DIODE	
		or RD12ES/B1/-T2	ZENER DIODE	
	R5322	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5323	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5324	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5325	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5326	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5327	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5328	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5329	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5330	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5331	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R5332	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5335	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R5336	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R5337	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5338	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5340	QRL01DJ-820X	OMF RESISTOR	82Ω,1W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R5341	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R5342	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5343	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5344	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5345	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5346	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5347	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5348	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5349	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5350	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5351	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5352	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		C5321	QETN1AM-107	E CAPACITOR	100μF,10V
		C5322	QETN1HM-106	E CAPACITOR	10μF,50V
		C5323	QETN1CM-107	E CAPACITOR	100μF,16V
		C5324	QFLC1HJ-102Z	F CAPACITOR	0.001μF,50V
		C5325	QFLC1HJ-102Z	F CAPACITOR	0.001μF,50V
		C5326	QETN1AM-107	E CAPACITOR	100μF,10V
		C5327	QETN1HM-106	E CAPACITOR	10μF,50V
		C5328	QETN1AM-107	E CAPACITOR	100μF,10V
		C5329	QFLC1HJ-103Z	F CAPACITOR	0.01μF,50V
		C5330	QETN1AM-107	E CAPACITOR	100μF,10V
		C5331	QETN1AM-107	E CAPACITOR	100μF,10V
		C5332	QETN1CM-226	E CAPACITOR	22μF,16V
		C5333	QETN1AM-107	E CAPACITOR	100μF,10V
		C5334	QETN1CM-227	E CAPACITOR	220μF,16V
		C5335	QETN1CM-107	E CAPACITOR	100μF,16V
		L5321	QQL01BK-101Z	COIL	100μH
		HS1	PQ46583-1-1	HEAT SINK	
		OT1	QYTDST3008Z	SCREW,X3	
		CN5301	QGF1208F1-19	FPC CONNECTOR,(1-19)SW.REG	
		CN5321	QGF1208F1-12	FPC CONNECTOR,(1-12)MAIN	
		CN5322	QGF1208F1-13	FPC CONNECTOR,(1-13)MAIN	
		CN5323	QGA2001C1-07	CONNECTOR,(1-7)DV MAIN	
		CN5325	QGA2001C1-05	CONNECTOR,(1-5)DV PRE/REC	
		CN5326	QGA2001F1-02	CONNECTOR,(1-2)FAN MOTOR	
	⚠	CP5322	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP5324	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP5325	ICP-N25	CIRCUIT PROTECTOR	

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MAIN BOARD ASSEMBLY <03>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10074-02C	MAIN BOARD ASSY
		IC1	JCP8017-MSA	IC
		IC2	MM1113XF	IC
		IC201	LC74775-9750	IC
		IC2201	AN3650NFBP	IC
			or AN3651FBP	IC
		IC2601	BU4052BCF	IC
		IC2602	BA15218F-XE	IC
		IC2604	BA15218F-XE	IC
		IC2605	BA3129F	IC
		IC2606	BA3129F	IC
		IC2607	BU4053BCF	IC
		IC2608	BA3129F	IC
		IC3001	HD6432194A21F	IC
		IC3002	S-80728AN-DR-X	IC
			or S-80828ANUP-W	IC
		IC3003	X24C08P	IC
			or AT24C08-10PC	IC
			or 24LC08B/P	IC
		IC3004	TA7291S	IC
		IC3301	UPD78053GCA66	IC
			or UPD78P058GCA66	IC
		IC3302	TC74HC4053AF	IC
		IC6080	BA15218F-XE	IC
		IC7501	PQ05RF21	IC
		Q1	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q6	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q13	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q14	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q15	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q16	UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or DTA144WU	TRANSISTOR
		Q17	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q18	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or DTC144WU	TRANSISTOR
		Q47	2SK433/D/-W	JUNCTION FET
		Q48	2SK433/D/-W	JUNCTION FET
		Q49	2SC3936/BC/-X	TRANSISTOR
		Q55	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q152	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QRS/-X	TRANSISTOR
		Q153	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q401	2SA1576A/QR/-X	TRANSISTOR
		Q402	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q403	UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q404	2SA1576A/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		Q405	2SA1576A/QR/-X	TRANSISTOR
		Q2001	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2002	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2003	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2051	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2052	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2053	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2054	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q2055	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2061	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2062	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q2063	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2151	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2201	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2202	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2203	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2204	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2253	DTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or UN5211	TRANSISTOR
			or PDTC114EU	TRANSISTOR
		Q2255	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q2256	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2258	DTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
			or PDTA144WU	TRANSISTOR
		Q2601	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2602	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2603	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q2604	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q2605	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q3001	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3002	LP40038-001A	TAPE SENSOR
		Q3003	LP40038-001A	TAPE SENSOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3005	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3008	UN521E	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
		Q3301	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3302	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3303	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3304	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3305	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q3306	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q4001	UN5211	TRANSISTOR

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
		or RN1302	TRANSISTOR	
		or DTC114EU	TRANSISTOR	
	Q6030	2SB1218A/RS/-X	TRANSISTOR	
	Q6031	UN5211	TRANSISTOR	
		or RN1302	TRANSISTOR	
		or DTC114EU	TRANSISTOR	
	Q6032	UN5211	TRANSISTOR	
		or DTC114EU	TRANSISTOR	
		or RN1302	TRANSISTOR	
	D202	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	D203	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	D2001	1SS133	DIODE	
	D2201	11ES2	DIODE	
	D3001	SIR-381SB3FM	LE DIODE	
		or SIR-381SB3FX1M	LE DIODE	
	D3002	1SS133	DIODE	
	D3003	RD33ES/B2/-T2	ZENER DIODE	
		or MTZJ33C	ZENER DIODE	
	D3004	11ES2	DIODE	
	D3005	11ES2	DIODE	
	D3007	1SS133	DIODE	
	D3008	1SS355	DIODE	
	D3301	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	D4001	1SS355	DIODE	
	D4002	1SS355	DIODE	
	D6002	HZ30-2L-T2	ZENER DIODE	
		or HZ30-2LTD	Z DIODE (M)	
	D7502	1SS355	DIODE	
	R1	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R2	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R3	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R4	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
	R5	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R7	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R10	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R11	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R13	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R15	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R16	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R24	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
	R25	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
	R46	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R47	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R48	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R49	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R50	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R52	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R54	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R55	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R56	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R57	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R60	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R62	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R63	NDC21HJ-120X	CAPACITOR	12pF,50V
	R64	NDC21HJ-220X	CAPACITOR	22pF,50V
	R68	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R69	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R71	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R94	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R95	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R137	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R143	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R158	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R168	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R169	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R170	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R171	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R181	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R195	NRSA02J-754X	MG RESISTOR	750kΩ,1/10W
	R197	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
	R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R202	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
	R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R401	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R402	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R403	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R404	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R405	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R408	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R410	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R2001	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R2002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R2003	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R2004	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
	R2005	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
	R2006	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R2007	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R2009	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R2013	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
	R2014	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R2020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R2053	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R2054	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
	R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
	R2063	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
	R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R2151	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R2152	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R2201	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2202	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2203	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R2204	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R2206	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R2207	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2208	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R2209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R2210	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2211	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2212	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2213	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2214	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2215	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R2216	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2217	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2218	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
R2219	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R2220	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R2221	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R2222	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R2225	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R2226	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R2227	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R2228	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2229	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2231	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2232	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
R2233	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
R2234	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2235	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2236	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2237	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
R2239	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2240	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
R2241	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2243	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2244	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
R2251	NRSA02J-303X	MG RESISTOR	30kΩ,1/10W
R2252	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2254	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R2255	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2601	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2602	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2603	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2604	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2605	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2606	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R2607	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2608	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R2609	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2610	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2611	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R2612	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R2613	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R2614	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R2615	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R2616	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2617	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R2618	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2619	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R2620	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2621	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2622	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2623	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2624	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2625	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2626	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R2627	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R2628	QRE141J-221Y	RESISTOR	220Ω,1/4W
R2629	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2630	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2631	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2632	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2633	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2634	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R2635	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2636	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2637	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R2638	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2639	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2640	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2641	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2642	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2643	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2644	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R2645	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2646	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R2647	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3015	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3022	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3025	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3026	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3027	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3031	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3033	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3034	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3035	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3036	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3037	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3038	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3039	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3040	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3042	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3044	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3046	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3047	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3048	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3049	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3054	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3055	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3056	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3063	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3073	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3074	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3075	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3076	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3077	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3078	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3079	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3081	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3083	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3086	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3087	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3088	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3089	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3090	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3092	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3093	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3094	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3095	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3096	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3097	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3104	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3204	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R3205	QRE141J-750Y	RESISTOR	75Ω,1/4W
R3206	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R3207	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R3208	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3210	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3223	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3224	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3235	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3236	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3240	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3301	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3303	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3304	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3305	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3306	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3308	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3309	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3310	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3311	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3312	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3313	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3314	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3315	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3317	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3318	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3319	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3320	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3321	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3322	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3323	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3324	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3325	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3326	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3327	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3328	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3329	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3330	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3331	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3332	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3334	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3335	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3336	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3337	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3338	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3341	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3342	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3343	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3344	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3345	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3346	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3347	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3348	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R3350	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3351	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3352	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3353	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R3354	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3355	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3356	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3357	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3358	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3359	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3360	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3361	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3362	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3363	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3364	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3365	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3366	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3367	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3373	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3381	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3382	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3383	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3384	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3385	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3386	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3387	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3388	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3389	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3390	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3391	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3392	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3393	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3394	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4006	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4011	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6032	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R6082	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		VR2251	QVP0039-473Z	TRIM RESISTOR,A.REC FM	
		C1	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C3	NCF21CZ-105X	CAPACITOR	1µF,16V
		C5	NCF21CZ-105X	CAPACITOR	1µF,16V
		C6	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C7	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C9	NCF21CZ-105X	CAPACITOR	1µF,16V
		C11	NCF21CZ-105X	CAPACITOR	1µF,16V
		C12	NCB21EK-473X	CAPACITOR	0.047µF,25V
		C13	QERF1HM-335	E CAPACITOR	3.3µF,50V
		C14	NCB21EK-333X	CAPACITOR	0.033µF,25V
		C16	NCF21CZ-105X	CAPACITOR	1µF,16V
		C19	NDC21HJ-470X	CAPACITOR	47pF,50V
		C20	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C21	NCB21CK-563X	CAPACITOR	0.056µF,16V
		C23	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C24	NCB21CK-474X	CAPACITOR	0.47µF,16V
		C25	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C27	NDC21HJ-101X	CAPACITOR	100pF,50V
		C29	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C30	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C31	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C32	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C34	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C37	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C41	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C42	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C43	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C45	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C46	NDC21HJ-101X	CAPACITOR	100pF,50V
		C47	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C48	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C49	NDC21HJ-221X	CAPACITOR	220pF,50V
		C54	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C55	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C56	QEKJ1HM-335	E CAPACITOR	3.3µF,50V
		C57	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C58	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C59	NCB21EK-473X	CAPACITOR	0.047µF,25V
		C62	NCF21CZ-334X	CAPACITOR	0.33µF,16V
		C63	NDC21HG-151X	CAPACITOR	150pF,50V
		C64	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C65	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C73	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C74	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C76	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C77	NDC21HJ-240X	CAPACITOR	24pF,50V
		C79	NDC21HJ-120X	CAPACITOR	12pF,50V
		C85	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C86	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C87	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C88	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C89	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C90	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C91	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C92	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		C98	NCF21CZ-105X	CAPACITOR	1µF,16V
		C107	NDC21HJ-5R0X	CAPACITOR	5pF,50V
		C134	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C141	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C201	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C202	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C204	NDC21HJ-100X	CAPACITOR	10pF,50V
		C209	NCB21CK-474X	CAPACITOR	0.47µF,16V
		C212	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C213	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C214	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C215	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C216	QEKJ0JM-227	E CAPACITOR	220µF,6.3V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C218	NCB21AK-105X	CAPACITOR	1µF,10V
C222	NCB21AK-105X	CAPACITOR	1µF,10V
C402	NCB21HK-103X	CAPACITOR	0.01µF,50V
C403	NDC21HJ-150X	CAPACITOR	15pF,50V
C404	NCB21HK-102X	CAPACITOR	0.001µF,50V
C406	NDC21HJ-470X	CAPACITOR	47pF,50V
C407	NCB21HK-223X	CAPACITOR	0.022µF,50V
C408	NDC21HJ-121X	CAPACITOR	120pF,50V
C409	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2002	QEKJ1CM-476	E CAPACITOR	47µF,16V
C2003	NCB21HK-123X	CAPACITOR	0.012µF,50V
C2004	QEKJ1CM-226	E CAPACITOR	22µF,16V
C2005	NCB21HK-102X	CAPACITOR	0.001µF,50V
C2006	NCB21HK-331X	CAPACITOR	330pF,50V
C2007	QEKJ1CM-106	E CAPACITOR	10µF,16V
C2008	NCB21HK-152X	CAPACITOR	0.0015µF,50V
C2009	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
C2010	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
C2011	NCB21EK-333X	CAPACITOR	0.033µF,25V
C2013	NCB21EK-333X	CAPACITOR	0.033µF,25V
C2015	QEKJ1CM-226	E CAPACITOR	22µF,16V
C2016	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
C2051	NCB21HK-331X	CAPACITOR	330pF,50V
C2052	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
C2053	NCB21HK-332X	CAPACITOR	0.0033µF,50V
C2054	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2055	QEKJ1CM-106	E CAPACITOR	10µF,16V
C2061	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
C2062	NCB21HK-332X	CAPACITOR	0.0033µF,50V
C2063	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2064	QEKJ1CM-106	E CAPACITOR	10µF,16V
C2151	NDC21HJ-101X	CAPACITOR	100pF,50V
C2152	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2201	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
C2202	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
C2204	QETJ1HM-226	E CAPACITOR	22µF,50V
C2205	QETJ1HM-475	E CAPACITOR	4.7µF,50V
C2206	QETJ1HM-475	E CAPACITOR	4.7µF,50V
C2207	QETN1EM-476	E CAPACITOR	47µF,25V
C2208	QETJ1HM-106	E CAPACITOR	10µF,50V
C2209	QETN1HM-106	E CAPACITOR	10µF,50V
C2210	QETN1HM-106	E CAPACITOR	10µF,50V
C2211	QETN1HM-106	E CAPACITOR	10µF,50V
C2212	QETN1EM-476	E CAPACITOR	47µF,25V
C2213	QETN1EM-476	E CAPACITOR	47µF,25V
C2214	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2215	QETJ1HM-106	E CAPACITOR	10µF,50V
C2218	QETN1EM-476	E CAPACITOR	47µF,25V
C2219	QETN1EM-476	E CAPACITOR	47µF,25V
C2220	QETN1EM-476	E CAPACITOR	47µF,25V
C2222	QETJ1HM-226	E CAPACITOR	22µF,50V
C2223	NCB21HK-221X	CAPACITOR	220pF,50V
C2224	NCB21HK-221X	CAPACITOR	220pF,50V
C2225	QETJ1HM-224	E CAPACITOR	0.22µF,50V
C2226	QETJ1EM-476	E CAPACITOR	47µF,25V
C2227	QETJ1EM-476	E CAPACITOR	47µF,25V
C2230	NCB21HK-473X	CAPACITOR	0.047µF,50V
C2231	NCB21HK-153X	CAPACITOR	0.015µF,50V
C2232	QETJ1HM-224	E CAPACITOR	0.22µF,50V
C2233	NCB21HK-153X	CAPACITOR	0.015µF,50V
C2234	NCB21HK-473X	CAPACITOR	0.047µF,50V
C2251	NCB21EK-104X	CAPACITOR	0.1µF,25V
C2252	NCB21HK-222X	CAPACITOR	0.0022µF,50V
C2253	NCB21HK-222X	CAPACITOR	0.0022µF,50V
C2257	QETJ1EM-476	E CAPACITOR	47µF,25V
C2258	NCB21EK-104X	CAPACITOR	0.1µF,25V
C2259	NCB21EK-104X	CAPACITOR	0.1µF,25V
C2260	NDC21HJ-181X	CAPACITOR	180pF,50V
C2261	NCB21HK-103X	CAPACITOR	0.01µF,50V
C2262	NDC21HJ-101X	CAPACITOR	100pF,50V
C2263	NDC21HJ-101X	CAPACITOR	100pF,50V
C2601	QETN1HM-106	E CAPACITOR	10µF,50V
C2602	QETN1EM-476	E CAPACITOR	47µF,25V
C2603	QETN1EM-476	E CAPACITOR	47µF,25V
C2604	QETN1EM-476	E CAPACITOR	47µF,25V
C2605	QETN1HM-105	E CAPACITOR	1µF,50V
C2606	QETN1HM-105	E CAPACITOR	1µF,50V
C2607	QETJ1HM-106	E CAPACITOR	10µF,50V
C2608	QETJ1EM-476	E CAPACITOR	47µF,25V
C2609	QETN1EM-476	E CAPACITOR	47µF,25V
C2610	QETN1EM-476	E CAPACITOR	47µF,25V
C2611	QETN1EM-476	E CAPACITOR	47µF,25V
C2612	QETN1EM-476	E CAPACITOR	47µF,25V
C2613	NDC21HJ-101X	CAPACITOR	100pF,50V
C2614	NDC21HJ-101X	CAPACITOR	100pF,50V
C2617	NDC21HJ-101X	CAPACITOR	100pF,50V
C2618	NDC21HJ-101X	CAPACITOR	100pF,50V
C2619	NDC21HJ-101X	CAPACITOR	100pF,50V
C2620	NDC21HJ-101X	CAPACITOR	100pF,50V
C2621	NDC21HJ-101X	CAPACITOR	100pF,50V
C2622	NDC21HJ-101X	CAPACITOR	100pF,50V
C2623	NDC21HJ-101X	CAPACITOR	100pF,50V
C2624	NDC21HJ-101X	CAPACITOR	100pF,50V
C2625	NDC21HJ-101X	CAPACITOR	100pF,50V
C2626	NDC21HJ-101X	CAPACITOR	100pF,50V
C3001	NCB21CK-104X	CAPACITOR	0.1µF,16V
C3002	NCB21HK-103X	CAPACITOR	0.01µF,50V
C3003	QEKJ1HM-106	E CAPACITOR	10µF,50V
C3004	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3007	NCB21HK-102X	CAPACITOR	0.001µF,50V
C3008	NCB21HK-102X	CAPACITOR	0.001µF,50V
C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
C3012	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
C3013	NCB21HK-103X	CAPACITOR	0.01µF,50V
C3014	QEKJ0JM-226	E CAPACITOR	22µF,6.3V
C3016	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3020	NDC21HJ-101X	CAPACITOR	100pF,50V
C3021	NDC21HJ-101X	CAPACITOR	100pF,50V
C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3023	QEKJ1CM-106	E CAPACITOR	10µF,16V
C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
C3027	QEKJ1CM-106	E CAPACITOR	10µF,16V
C3028	NDC21HJ-101X	CAPACITOR	100pF,50V
C3029	NDC21HJ-101X	CAPACITOR	100pF,50V
C3030	QEKJ0JM-226	E CAPACITOR	22µF,6.3V
C3031	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3032	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3033	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
C3039	NDC21HJ-101X	CAPACITOR	100pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3040	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
		C3042	QETN0JM-477	E CAPACITOR	470μF,6.3V
		C3050	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3051	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3055	NCB21HK-221X	CAPACITOR	220pF,50V
		C3070	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3071	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3310	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3311	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C3312	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3313	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C4001	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
		C4002	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C4003	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C4004	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
		C4005	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C4006	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C4007	NCB21HK-561X	CAPACITOR	560pF,50V
		C4008	NCB21AK-105X	CAPACITOR	1μF,10V
		C4009	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C4011	NCB21CK-104X	CAPACITOR	0.1μF,16V
		C4012	NCB21EK-224X	CAPACITOR	0.22μF,25V
		C4013	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HJ-102X	CAPACITOR	0.001μF,50V
		C6006	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6007	QEKJ1CM-107	E CAPACITOR	100μF,16V
		C6008	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6016	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6020	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6021	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6022	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6032	NCB21HK-473X	CAPACITOR	0.047μF,50V
		C6037	QEKJ1HM-106	E CAPACITOR	10μF,50V
		C7503	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C7504	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		L1	QQL29BJ-100Z	COIL	10μH
		L3	QQL29BJ-6R8Z	COIL	6.8μH
		L4	QQL29BJ-100Z	COIL	10μH
		L7	QQL29BJ-100Z	COIL	10μH
		L9	QQL29BJ-100Z	COIL	10μH
		L12	QQL071J-330Y	COIL	33μH
		L13	QQL071J-120Y	COIL	12μH
		L14	QQL071J-820Y	COIL	82μH
		L16	QQL29BJ-100Z	COIL	10μH
		L18	QQR0967-001	COIL	12μH
		L201	QQL29BK-1R0Z	COIL	1μH
		L202	QQL071J-330Y	COIL	33μH
		L204	QQL29BJ-100Z	COIL	10μH
		L401	QQL071J-100Y	COIL	10μH
		L402	QQL231J-150Y	COIL	15μH
		L2201	QUY153-050Y	COIL	
		L2251	QQL29BJ-100Z	COIL	10μH
		L2252	QQL29BJ-151Z	COIL	150μH
		L3001	QQL29BK-100Z	COIL	10μH
		L3002	QQL29BJ-330Z	COIL	33μH
		L3003	QQL29BJ-330Z	COIL	33μH
		L3301	QQL231J-100Y	COIL	10μH
		L6001	QQL29BK-100Z	COIL	10μH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L6002	QQL29BK-100Z	COIL	10μH
		L6031	QQL29BK-1R0Z	COIL	1μH
		L6701	QQL231J-3R3Y	COIL	3.3μH
		CF3301	QAX0227-001	RESONATOR	
		X1	QAX0530-001	CRYSTAL RESONATOR	
		X3001	QAX0444-001	CRYSTAL RESONATOR	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3001	PESW0589	PUSH SWITCH,REC SAFETY	
		S3002	PU61320	PUSH SWITCH,CASSETTE SW	
		S3003	PU61320	PUSH SWITCH,S CASSETTE SW	
		PC3001	SG-246	IC(PHOTO SENSOR	
		PC3002	SG-246	IC(PHOTO SENSOR	
		T2051	PELN0860	OSC TRANSFORMER	
		T2052	PELN0861	OSC TRANSFORMER	
		CN1	QGF1028C1-13	FPC CONNECTOR,(1-13)U.DRUM	
		CN2001	QGD2003C1-07	CONNECTOR,(1-7)A/C HEAD	
		CN2002	QGD2003C1-02	CONNECTOR,(1-2)FE HEAD	
		CN2601	QGF1016C3-08	FFC/FPC CONNECTOR,(1-8)DV AUDIO	
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
		CN3002	QGD2003C1-02	CONNECTOR,(1-2)LOADING MOTOR	
		CN3003	QGB2002L1-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
		CN3004	PU61434-1-1	CONNECTOR,(1-5)ROTARY ENCODER	
		CN3011	QGF1207F1-11	FPC CONNECTOR,(1-11)FRONT	
		CN3301	QGF1016C3-10	FFC/FPC CONNECTOR,(1-10)DV MAIN	
		CN7503	QGB2024K1-11S	CONNECTOR,(1-11)TERMINAL	
		CN7504	QGB2024K1-07S	CONNECTOR,(1-7)TERMINAL	
		CN7505	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN7506	QGB2024K1-11S	CONNECTOR,(1-11)TERMINAL	
		CN7507	QGF1207F1-10	FPC CONNECTOR,(1-10)FRONT(A/V)	
		CN7508	QGF1207C1-13	FPC CONNECTOR,(1-13)REG	
		CN7509	QGF1207C1-12	FPC CONNECTOR,(1-12)REG	
	⚠	CP3003	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP3004	ICP-N15	CIRCUIT PROTECTOR	
	⚠	CP4001	ICP-N15	CIRCUIT PROTECTOR	

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3D SVHS BOARD ASSEMBLY <05>

REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10033-10A	3D SVHS BOARD ASSY
IC1001	JCP8008	IC
IC1002	VC2076MP-XE	IC
IC1006	HA118092FP1	IC
IC1007	BA10358F-XE	IC
IC1401	JCP8010-2	IC(DIGITAL)
IC1402	MN47V77S-XE	IC
Q1004	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1005	DTC144WU	TRANSISTOR
	or UN521E	TRANSISTOR
	or RN1309	TRANSISTOR
Q1006	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q1007	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
Q1012	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1014	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1015	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1016	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1021	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q1022	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1401	2SC1317/RS/-T	TRANSISTOR
Q1402	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1403	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1404	2SC4081/S/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1405	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q1406	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1407	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q1408	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1409	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q1410	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1411	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q1412	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1413	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1414	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q1416	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
Q1417	2SC4081/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
	or 2SD1819A/QRS/-X	TRANSISTOR	
Q1418	2SC4081/QRS/-X	TRANSISTOR	
	or 2SD1819A/QRS/-X	TRANSISTOR	
	or 2PC4081/R/-X	TRANSISTOR	
D1002	1SS133	DIODE	
	or 1N4148M	DIODE	
D1003	1SS133	DIODE	
	or 1N4148M	DIODE	
D1004	1SS133	DIODE	
	or 1N4148M	DIODE	
D1006	1SS133	DIODE	
	or 1N4148M	DIODE	
D1401	RD4.3ES/B2/-T2	ZENER DIODE	
	or MTZJ4.3B	ZENER DIODE	
D1402	1SS133	DIODE	
	or 1N4148M	DIODE	
R1002	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1003	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1008	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1009	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
R1010	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
R1011	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
R1012	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
R1013	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
R1014	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
R1015	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
R1016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R1017	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
R1018	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R1019	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R1020	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R1021	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R1023	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1025	NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
R1026	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1027	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R1028	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R1029	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R1030	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R1031	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R1032	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R1035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1037	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1038	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1039	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
R1045	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R1046	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R1047	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1048	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R1049	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
R1053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R1054	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R1055	NRVA02D-563X	CMF RESISTOR	56kΩ,1/10W
R1056	NRVA02D-224X	CMF RESISTOR	220kΩ,1/10W
R1058	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
R1059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1060	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R1063	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1064	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R1065	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1066	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1067	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1068	NRSA02J-361X	MG RESISTOR	360Ω,1/10W
		R1069	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1070	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1071	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1072	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1401	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1403	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1404	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1405	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1408	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1409	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1410	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1411	NRSA02J-243X	MG RESISTOR	24kΩ,1/10W
		R1412	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1414	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1415	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1416	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1417	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1419	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1420	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1422	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1423	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1425	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1428	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1429	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1430	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1431	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1433	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1434	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1435	NRSA02J-242X	MG RESISTOR	2.4kΩ,1/10W
		R1436	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1437	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1438	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1439	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1440	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1442	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1443	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R1444	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1445	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1446	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1447	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1448	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1449	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
		R1451	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1455	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1456	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1457	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1458	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1459	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1460	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1461	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1462	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1463	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1465	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1467	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1468	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R1470	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1471	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R1472	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		VR1002	QVZ3521-104Z	V RESISTOR,P.BURST LEVEL	
		VR1401	QVP0039-103Z	TRIM RESISTOR,D/A LEVEL	
		C1001	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C1002	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
		C1003	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1006	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1007	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1010	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1011	NDC21HJ-150X	CAPACITOR	15pF,50V
		C1013	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1014	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1015	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1016	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1017	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1019	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1020	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1021	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1022	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1023	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1024	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1026	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1027	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1028	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1029	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
		C1030	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1031	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1033	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1034	QEPF1HM-105	NP E CAPACITOR	1μF,50V
		C1035	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1036	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
		C1037	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1038	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1039	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C1040	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1041	NDC21HG-301X	CAPACITOR	300pF,50V
		C1042	NDC21HG-301X	CAPACITOR	300pF,50V
		C1043	NDC21HG-221X	CAPACITOR	220pF,50V
		C1044	NDC21HG-820X	CAPACITOR	82pF,50V
		C1045	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1046	NDC21HG-271X	CAPACITOR	270pF,50V
		C1047	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1048	NDC21HJ-181X	CAPACITOR	180pF,50V
		C1049	NDC21HG-301X	CAPACITOR	300pF,50V
		C1050	NDC21HG-301X	CAPACITOR	300pF,50V
		C1056	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1057	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1058	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1063	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1064	NCB21HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1065	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C1066	NCB21EK-223X	CAPACITOR	0.022μF,25V
C1067	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1068	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1069	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1070	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1071	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1072	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1073	NDC21HJ-150X	CAPACITOR	15pF,50V
C1074	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1082	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1086	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1087	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1088	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1089	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1092	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1095	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1403	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1404	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1405	NDC21HJ-220X	CAPACITOR	22pF,50V
C1406	NDC21HJ-6R0X	CAPACITOR	6pF,50V
C1407	NDC21HJ-390X	CAPACITOR	39pF,50V
C1408	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1409	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1410	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1411	QEKJ1CM-106	E CAPACITOR	10μF,16V
C1412	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1413	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1414	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1415	NDC21HJ-221X	CAPACITOR	220pF,50V
C1416	NDC21HJ-391X	CAPACITOR	390pF,50V
C1417	NDC21HJ-680X	CAPACITOR	68pF,50V
C1418	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C1419	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1420	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1421	NDC21HJ-680X	CAPACITOR	68pF,50V
C1422	NDC21HJ-330X	CAPACITOR	33pF,50V
C1424	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1425	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1426	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1427	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1428	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1429	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1431	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1432	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1434	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1435	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1439	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1442	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1443	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1444	QEKJ1HM-105	E CAPACITOR	1μF,50V
C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1446	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1447	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C1448	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1449	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1450	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1451	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1454	NDC21HJ-220X	CAPACITOR	22pF,50V
C1455	NDC21HJ-390X	CAPACITOR	39pF,50V
C1457	NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1458	NCB21HK-103X	CAPACITOR	0.01μF,50V
C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
C1463	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C1464	NDC21HJ-330X	CAPACITOR	33pF,50V
C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
C1469	NDC21HJ-470X	CAPACITOR	47pF,50V
C1470	NDC21HJ-470X	CAPACITOR	47pF,50V
C1471	NDC21HJ-470X	CAPACITOR	47pF,50V
C1472	NDC21HJ-470X	CAPACITOR	47pF,50V
C1473	NDC21HJ-470X	CAPACITOR	47pF,50V
L1001	QQL29BJ-220Z	COIL	22μH
L1004	QQL071J-680Y	COIL	68μH
L1006	QQL29BJ-101Z	COIL	100μH
L1008	QQL29BJ-100Z	COIL	10μH
L1401	QQL071J-330Y	COIL	33μH
L1402	QQL29BJ-100Z	COIL	10μH
L1404	QQL071J-8R2Y	COIL	8.2μH
L1405	QQL071J-150Y	COIL	15μH
L1406	QQL071J-6R8Y	COIL	6.8μH
L1407	QQL29BJ-100Z	COIL	10μH
L1408	QQL29BJ-100Z	COIL	10μH
L1409	QQL071J-330Y	COIL	33μH
L1410	QQL29BJ-4R7Z	COIL	4.7μH
L1411	QQL071J-1R0Y	COIL	1μH
LC1401	QQR0657-013Z	NOISE FILTER	
LC1402	QQR0657-010Z	NOISE FILTER	
SD1	LP30621-001A	SHIELD CASE(SVHS 3D)	
SD2	LP30406-001A	SHIELD PLATE(SVHS)	
BK1	LP40077-001A	BRACKET(BOARD)	
CN1001	QGG2503K2-30	HEADER PIN	
CN1002	QGG2503K2-30	HEADER PIN	
CN1003	QGF1217F1-07	FPC CONNECTOR,(1-7)TERMINAL	

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TERMINAL BOARD ASSEMBLY <06>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10077-01C	TERMINAL BOARD ASSY
IC7101	MM1031XM	IC
IC7102	MM1224XF	IC
IC7103	MM1228XF	IC
IC7104	MM1117XF	IC
IC7105	MM1113XF	IC
IC7106	MM1024AF	IC
IC7107	LC74789N-9773	IC (OSD)
IC7108	AN3916	IC
IC7110	MM1113XF	IC

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		IC7111	MM1117XF	IC	
		IC7112	MM1111XF	IC	
		IC7113	BH7635S	IC	
		IC7114	MM1111XF	IC	
		Q7101	2SA1576A/QR/-X	TRANSISTOR	
		Q7102	2SC4081/QRS/-X	TRANSISTOR	
		Q7103	2SC4081/QRS/-X	TRANSISTOR	
		Q7104	2SA1576A/QR/-X	TRANSISTOR	
		Q7105	2SC4081/QRS/-X	TRANSISTOR	
		Q7106	2SC4081/QRS/-X	TRANSISTOR	
		Q7107	2SC4081/QRS/-X	TRANSISTOR	
		Q7108	2SA1576A/QR/-X	TRANSISTOR	
		Q7109	2SC4081/QRS/-X	TRANSISTOR	
		Q7110	2SC4081/QRS/-X	TRANSISTOR	
		Q7111	2SA1576A/QR/-X	TRANSISTOR	
		Q7112	2SC4081/QRS/-X	TRANSISTOR	
		Q7113	2SA1576A/QR/-X	TRANSISTOR	
		Q7114	DTC144WU	TRANSISTOR	
		Q7115	DTC144WU	TRANSISTOR	
		Q7116	2SC4226/4/-X	TRANSISTOR	
		Q7117	2SC4226/4/-X	TRANSISTOR	
		Q7118	2SC4226/4/-X	TRANSISTOR	
		Q7119	2SC4226/4/-X	TRANSISTOR	
		Q7121	DTC144WU	TRANSISTOR	
		Q7122	2SA1576A/QR/-X	TRANSISTOR	
		Q7123	2SC4081/QRS/-X	TRANSISTOR	
		Q7124	2SA1576A/QR/-X	TRANSISTOR	
		Q7125	2SC4081/QRS/-X	TRANSISTOR	
		Q7126	2SA1576A/QR/-X	TRANSISTOR	
		Q7127	2SA1576A/QR/-X	TRANSISTOR	
		Q7128	2SC4081/QRS/-X	TRANSISTOR	
		Q7129	2SC4081/QRS/-X	TRANSISTOR	
		Q7130	2SA1576A/QR/-X	TRANSISTOR	
		Q7131	2SA1576A/QR/-X	TRANSISTOR	
		Q7132	2SC4081/QRS/-X	TRANSISTOR	
		Q7133	2SA1576A/QR/-X	TRANSISTOR	
		Q7134	2SC4081/QRS/-X	TRANSISTOR	
		Q7135	2SC4081/QRS/-X	TRANSISTOR	
		Q7136	2SC4081/QRS/-X	TRANSISTOR	
		Q7137	2SA1576A/QR/-X	TRANSISTOR	
		Q7138	2SC4081/QRS/-X	TRANSISTOR	
		Q7140	DTC114EU	TRANSISTOR	
			or UN5211	TRANSISTOR	
		D7101	DA204U	DIODE	
		D7103	1SS133	DIODE	
		D7104	1SS133	DIODE	
		D7105	1SS133	DIODE	
		R7103	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R7104	NRVA02D-331X	CMF RESISTOR	330Ω,1/10W
		R7105	NRVA02D-181X	CMF RESISTOR	180Ω,1/10W
		R7106	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R7107	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7108	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R7109	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7110	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R7111	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R7112	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R7113	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R7114	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7115	NRVA02D-271X	CMF RESISTOR	270Ω,1/10W
		R7116	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R7117	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7118	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7119	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R7120	NRSA02J-820X	MG RESISTOR	82Ω,1/10W
		R7121	NRSA02J-620X	CMF RESISTOR	62Ω,1/10W
		R7122	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R7123	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R7124	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R7126	NRVA02D-750X	CMF RESISTOR	75Ω,1/10W
		R7127	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
		R7128	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7129	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W
		R7130	NRVA02D-621X	CMF RESISTOR	620Ω,1/10W
		R7131	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R7132	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R7133	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7134	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R7135	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7136	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R7137	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R7138	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R7139	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R7140	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R7141	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R7142	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R7143	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W
		R7144	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W
		R7145	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7146	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7147	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7148	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7149	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7150	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R7151	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R7152	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R7153	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R7154	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7155	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7156	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R7157	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R7158	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R7159	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R7160	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7161	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7162	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7163	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R7164	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R7165	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R7166	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R7167	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7168	NRVA02D-223X	CMF RESISTOR	22kΩ,1/10W
		R7169	NRSA02J-274X	MG RESISTOR	270kΩ,1/10W
		R7170	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R7171	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R7172	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7173	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7174	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7175	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R7176	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R7177	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W
		R7178	NRVA02D-561X	CMF RESISTOR	560Ω,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7179	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R7180	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7181	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R7182	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
R7183	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7184	QRE121J-391Y	RESISTOR	390Ω,1/2W
R7185	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7186	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R7187	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R7188	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7189	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7190	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
R7191	NRVA02D-680X	CMF RESISTOR	68Ω,1/10W
R7192	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7193	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7194	NRVA02D-750X	CMF RESISTOR	75Ω,1/10W
R7195	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7196	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7197	QRE121J-331Y	RESISTOR	330Ω,1/2W
R7198	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7199	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7200	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7201	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7202	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7203	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7204	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7205	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7206	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7207	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7210	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R7211	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7212	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R7213	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R7214	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
R7216	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
VR7101	QVP0008-503Z	TRIM RESISTOR,DV AGC	
C7101	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C7102	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7103	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7105	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7106	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7107	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7108	NCB21EK-104X	CAPACITOR	0.1μF,25V
C7109	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7110	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7111	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7112	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C7113	QEKJ1CM-106	E CAPACITOR	10μF,16V
C7115	QEKJ1CM-106	E CAPACITOR	10μF,16V
C7116	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7117	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
C7118	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7119	QEKJ1HM-105	E CAPACITOR	1μF,50V
C7120	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C7121	QEKJ1HM-105	E CAPACITOR	1μF,50V
C7122	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C7123	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7124	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C7125	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7126	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7127	NCB21HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C7128	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7129	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C7130	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C7131	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7132	QEPF1CM-106	NP E CAPACITOR	10μF,16V
C7133	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7134	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7135	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7136	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C7138	QERF0JM-107	E CAPACITOR	100μF,6.3V
C7139	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
C7140	NCB21EK-104X	CAPACITOR	0.1μF,25V
C7141	NCB21CK-105X	CAPACITOR	1μF,16V
C7142	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7145	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7146	NDC21HJ-330X	CAPACITOR	33pF,50V
C7147	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
C7148	NDC21HJ-330X	CAPACITOR	33pF,50V
C7149	NCB21CK-224X	CAPACITOR	0.22μF,16V
C7150	NDC21HJ-101X	CAPACITOR	100pF,50V
C7151	NDC21HJ-470X	CAPACITOR	47pF,50V
C7152	NCB21CK-105X	CAPACITOR	1μF,16V
C7153	NDC21HJ-150X	CAPACITOR	15pF,50V
C7157	NCB21CK-224X	CAPACITOR	0.22μF,16V
C7158	NCB21HK-332X	CAPACITOR	0.0033μF,50V
C7159	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7160	NCB21HK-473X	CAPACITOR	0.047μF,50V
C7161	NCF21AZ-475X	CAPACITOR	4.7μF,10V
C7162	QEPF1CM-106	NP E CAPACITOR	10μF,16V
C7163	QEKJ1CM-106	E CAPACITOR	10μF,16V
C7164	NCF21AZ-475X	CAPACITOR	4.7μF,10V
C7165	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7169	NBE21AM-106X	T CAPACITOR	10μF,10V
C7170	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7171	NDC21HJ-101X	CAPACITOR	100pF,50V
C7173	QEKJ1CM-106	E CAPACITOR	10μF,16V
C7174	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7175	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7176	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7178	NBE21AM-106X	T CAPACITOR	10μF,10V
C7180	NDC21HJ-101X	CAPACITOR	100pF,50V
C7181	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7182	QEKJ1AM-476	E CAPACITOR	47μF,10V
C7184	QETL1CM-477	E CAPACITOR	470μF,16V
C7186	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7187	NDC21HJ-101X	CAPACITOR	100pF,50V
C7188	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7189	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7190	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7191	NDC21HJ-101X	CAPACITOR	100pF,50V
C7192	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7194	NCB21EK-104X	CAPACITOR	0.1μF,25V
C7195	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7196	NDC21HJ-101X	CAPACITOR	100pF,50V
C7197	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7198	NCB21HK-223X	CAPACITOR	0.022μF,50V
C7200	NCB21CK-105X	CAPACITOR	1μF,16V
C7202	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7203	QERF1CM-476	E CAPACITOR	47μF,16V
C7204	NCB21HK-103X	CAPACITOR	0.01μF,50V
C7205	QEPF0JM-476	NP E CAPACITOR	47μF,6.3V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7206	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C7207	QERF0JM-476	E CAPACITOR	47μF,6.3V
		C7208	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C7209	NCB21HK-681X	CAPACITOR	680pF,50V
		C7210	NCB21HK-681X	CAPACITOR	680pF,50V
		C7211	NCB21HK-681X	CAPACITOR	680pF,50V
		C7212	NCB21HK-681X	CAPACITOR	680pF,50V
		C7214	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7216	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7218	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7220	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7227	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7228	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C7229	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C7230	NDC21HJ-270X	CAPACITOR	27pF,50V
		C7231	NDC21HJ-101X	CAPACITOR	100pF,50V
		C7232	NDC21HJ-101X	CAPACITOR	100pF,50V
		C7233	NDC21HJ-101X	CAPACITOR	100pF,50V
		L7101	QQL29BJ-101Z	COIL	100μH
		L7102	QQL29BJ-101Z	COIL	100μH
		L7103	NQL045M-4R7X	COIL	4.7μH
		L7104	NQL045M-4R7X	COIL	4.7μH
		L7105	NQL045M-4R7X	COIL	4.7μH
		L7106	NQL045M-4R7X	COIL	4.7μH
		L7107	NQL045M-1R0X	COIL	1μH
		L7109	NQL085J-220X	COIL	22μH
		L7110	NQL085J-820X	COIL	82μH
		L7111	NQL085J-270X	COIL	27μH
		L7113	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7116	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7117	NQL045M-4R7X	COIL	4.7μH
		L7119	NRSA02J-0R0X	COIL	0Ω,1/10W
		L7121	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7122	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7124	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7127	NQL045K-101X	COIL	100μH
		L7128	QQL071K-R22Y	COIL	0.22μH
		L7129	QQL071J-1R0Y	COIL	1μH
		L7130	QQL071J-4R7Y	COIL	4.7μH
		L7131	QQL071J-4R7Y	COIL	4.7μH
		L7132	QQL071J-4R7Y	COIL	4.7μH
		L7133	QQL071J-4R7Y	COIL	4.7μH
		L7134	QQL071J-4R7Y	COIL	4.7μH
		L7135	QQL071J-4R7Y	COIL	4.7μH
		L7136	QQL071J-4R7Y	COIL	4.7μH
		L7137	QQL071J-4R7Y	COIL	4.7μH
		L7139	QQL071J-4R7Y	COIL	4.7μH
		L7140	QQL071J-4R7Y	COIL	4.7μH
		L7141	NQL045K-100X	COIL	100μH
		S7101	QSW0693-001	SLIDE SWITCH	
		ET1	QNZ0431-001Z	EARTH TERMINAL	
		OT2	PU59915-105	#500SPACER0.01,C7184	
		J7101	QND0009-001	S JACK,S OUT	
		J7102	QNZ0418-001	21P CONNECTOR,AV1	
		J7103	QNZ0418-001	21P CONNECTOR,AV2	
		J7104	QNN0267-001	PIN JACK,A.OUT(L/R)	
		WR7002	QUG038-10B2B4	SHI 1 CORE WIRE	
		CN7101	QGF1208F1-07	FPC CONNECTOR,(1-7)SVHS	
		CN7102	QGA2001F1-09	CONNECTOR,(1-9)DV MAIN	
		CN7103	QGB2024J1-11S	CONNECTOR,(1-11)MAIN	
		CN7104	QGB2024J1-07S	CONNECTOR,(1-7)MAIN	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		CN7105	QGB2024J1-12S	CONNECTOR,(1-12)MAIN
		CN7106	QGB2024J1-11S	CONNECTOR,(1-11)MAIN

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	PB40068A-01	A/C HEAD BOARD ASSY
CN1	QGD2001F1-07	CONNECTOR,MAIN

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DEMOD BOARD ASSEMBLY <14>

PW1	LPA10060-01C	DEMOD BOARD ASSY	
IC6701	TDA9874H/V1-X	IC	
Q6701	2SC3936/BC/-X	TRANSISTOR	
D6701	1SV214	DIODE	
R6701	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6705	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6706	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6707	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6708	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6709	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6710	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R6711	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R6713	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6715	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6716	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6717	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6719	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
R6720	QRE141J-100Y	RESISTOR	10Ω,1/4W
R6721	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6722	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R6723	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6724	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R6725	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6726	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
C6701	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C6702	NCB21HK-682X	CAPACITOR	0.0068μF,50V
C6703	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C6704	NCB21HK-682X	CAPACITOR	0.0068μF,50V
C6705	NCF21CZ-474X	CAPACITOR	0.47μF,16V
C6706	NCF21CZ-474X	CAPACITOR	0.47μF,16V
C6707	NCF21CZ-474X	CAPACITOR	0.47μF,16V
C6710	QEKJ1HM-334	E CAPACITOR	0.33μF,50V
C6711	NCB21EK-333X	CAPACITOR	0.033μF,25V
C6712	NDC21HJ-180X	CAPACITOR	18pF,50V
C6713	NDC21HJ-180X	CAPACITOR	18pF,50V
C6716	NCF21CZ-474X	CAPACITOR	0.47μF,16V
C6718	NCB21EK-224X	CAPACITOR	0.22μF,25V
C6719	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6720	QEKJ1HM-105	E CAPACITOR	1μF,50V
C6722	NCF21CZ-474X	CAPACITOR	0.47μF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C6723	NDC21HJ-101X	CAPACITOR	100pF,50V
C6724	NDC21HJ-101X	CAPACITOR	100pF,50V
C6728	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6729	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C6730	QEKJ1CM-476	E CAPACITOR	47μF,16V
C6731	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6732	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6733	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C6734	NCB21HK-103X	CAPACITOR	0.01μF,50V
L6701	QQL231J-3R3Y	COIL	3.3μH
L6702	QQL231J-1R0Y	COIL	1μH
L6703	QQL231J-3R3Y	COIL	3.3μH
X6701	QAX0560-001	CRYSTAL RESONATOR	
K6701	NQR0200-003X	FERRITE BEAD	
K6702	NQR0200-003X	FERRITE BEAD	
K6703	NQR0200-003X	FERRITE BEAD	
K6704	NQR0200-003X	FERRITE BEAD	
K6705	NQR0200-003X	FERRITE BEAD	
K6706	NQR0200-003X	FERRITE BEAD	
K6707	NQR0200-003X	FERRITE BEAD	
BK1	LP40077-001A	BRACKET(BOARD)	
CN6701	QGG2502K1-10	HEADER PIN	

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DV PRE/REC MDA BOARD ASSEMBLY <16>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	LPA10032-02C2	DV PRE/RRC MDA BOARD ASSY	
IC1601	BA6865KV	IC	
IC1602	BA6417F	IC	
IC9001	AN3731FHQ	IC(DIGITAL)	
Q1601	DTA114EU	TRANSISTOR	
Q1602	2SB1302/T/-X	TRANSISTOR	
Q1603	2SB1302/T/-X	TRANSISTOR	
Q1604	2SB1302/T/-X	TRANSISTOR	
Q1605	2SC4097/QR/-X	TRANSISTOR	
Q9003	2SC4226/4/-X	TRANSISTOR	
Q9005	2SD1979/S/-X	TRANSISTOR	
Q9006	2SD1979/S/-X	TRANSISTOR	
Q9007	2SC4226/4/-X	TRANSISTOR	
D1602	DAP222	DIODE	
D1603	DAP222	DIODE	
D1604	DAP222	DIODE	
R1601	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R1602	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R1603	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1604	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R1605	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R1606	NRV142F-R22X	CMF RESISTOR	0.22Ω,1/4W
R1609	NRS12BK-R68W	MG RESISTOR	0.68Ω,1/2W
R1610	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1611	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1612	NRSA63J-274X	MG RESISTOR	270kΩ,1/16W
R1613	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R1614	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
R1615	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R1616	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
R1617	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R1618	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
R1619	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R1625	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
R1626	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
R1627	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
R1628	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
R1629	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R1630	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1633	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1634	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1635	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1636	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
R1642	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1643	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R1644	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R1645	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R1646	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R1647	NRSA02J-1R8X	MG RESISTOR	1.8Ω,1/10W
R1648	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R1649	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1650	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9003	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9004	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9005	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R9006	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R9007	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R9009	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R9011	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R9012	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R9013	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R9014	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R9015	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R9016	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R9017	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9021	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9022	NRSA63J-181X	MG RESISTOR	180Ω,1/16W
R9023	NRSA63J-181X	MG RESISTOR	180Ω,1/16W
R9024	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R9025	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R9026	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R9027	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R9028	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C1601	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1602	NEA71CM-106X	E CAPACITOR	10μF,16V
C1603	NBE21AM-106X	T CAPACITOR	10μF,10V
C1605	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1606	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C1607	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1608	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1609	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1610	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1611	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1612	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1613	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1614	NEA71CM-106X	E CAPACITOR	10μF,16V
C1615	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1616	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1617	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1618	NCB31EK-223X	CAPACITOR	0.022μF,25V
C1619	NCB31EK-223X	CAPACITOR	0.022μF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C1620	NCB31EK-223X	CAPACITOR	0.022μF,25V
C1621	NCB21AK-105X	CAPACITOR	1μF,10V
C1622	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1623	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1625	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1626	NCB31EK-223X	CAPACITOR	0.022μF,25V
C1627	NCB31CK-473X	CAPACITOR	0.047μF,16V
C1628	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1631	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1632	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C1635	NEA71CM-106X	E CAPACITOR	10μF,16V
C1636	NEA71CM-106X	E CAPACITOR	10μF,16V
C1637	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C1639	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1640	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1641	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1644	NCB21EK-104X	CAPACITOR	0.1μF,25V
C1646	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1647	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1648	NCB21CK-224X	CAPACITOR	0.22μF,16V
C1649	NCB21CK-224X	CAPACITOR	0.22μF,16V
C1650	NCB21CK-224X	CAPACITOR	0.22μF,16V
C1651	NCB31HK-103X	CAPACITOR	0.01μF,50V
C1652	NEA71CM-106X	E CAPACITOR	10μF,16V
C9001	NCB31HK-122X	CAPACITOR	0.0012μF,50V
C9002	NCB21AK-105X	CAPACITOR	1μF,10V
C9003	NCB31HK-102X	CAPACITOR	0.001μF,50V
C9004	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9005	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9006	NDC31HJ-470X	CAPACITOR	47pF,50V
C9007	NCB31HK-681X	CAPACITOR	680pF,50V
C9009	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C9010	NDC31HJ-330X	CAPACITOR	33pF,50V
C9011	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9012	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9013	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C9014	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9015	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9016	NDC31HJ-220X	CAPACITOR	22pF,50V
C9017	NEA71CM-106X	E CAPACITOR	10μF,16V
C9018	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9019	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9020	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9021	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9022	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9024	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9027	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9029	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C9030	NEA70GM-107X	E CAPACITOR	100μF,4.0V
C9031	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9032	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9033	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9034	NDC31HJ-330X	CAPACITOR	33pF,50V
C9035	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C9036	NCB31HK-103X	CAPACITOR	0.01μF,50V
C9038	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C9040	NCB31HK-103X	CAPACITOR	0.01μF,50V
L1601	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
L9001	NQL045K-470X	COIL	47μH
L9002	NQL045K-470X	COIL	47μH
L9003	NQL045K-470X	COIL	47μH

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
L9004	NQL085J-220X	COIL	22μH
L9005	NQL085J-220X	COIL	22μH
LC1601	PELN1148-223X	NOISE FILTER	
LC1602	PELN1148-223X	NOISE FILTER	
LC1603	PELN1148-223X	NOISE FILTER	
LC1605	PELN1148-223X	NOISE FILTER	
SD1	LP30467-001A	SHIELD COVER,PRE/REC	
QA1601	BA6254FS	TR ARRAY	
CN1601	QGA2001F2-05X	CONNECTOR,(1-5)REG	
CN1602	QGA1201C2-02X	CONNECTOR,(1-2)DV LOADING MOTOR	
CN1603	QGF0504C1-11X	FPC CONNECTOR,(1-11)DV DRUM MDA	
CN1604	QGF0501F1-18X	FPC CONNECTOR,(1-18)DV CAPSTAN	
CN1605	QGA1201C2-04X	CONNECTOR,(1-4)DV ENCODER	
CN1606	QGF0501F1-20X	FPC CONNECTOR,(1-20)DV MAIN	
CN1607	QGA1201C2-04X	CONNECTOR,(1-4)DV HOUSING MOTOR	
CN9001	QGF0501F1-20X	FPC CONNECTOR,(1-20)DV MAIN	
CN9002	QGF0501F1-10X	FPC CONNECTOR,(1-10)DV VIDEO	

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DISPLAY BOARD ASSEMBLY <21>

PW5	LPA10029-02C5	DISPLAY BOARD ASSY	
IC1251	UPD16312GB(P)	IC	
	or UPD16312GB(M)	IC	
IC1252	GP1U281X	IR DETECT UNIT	
D1257	RD9.1ES/B2/-T2	ZENER DIODE	
D1258	11ES2	DIODE	
D1261	1N4148M	DIODE	
	or 1SS133	DIODE	
D1262	1N4148M	DIODE	
	or 1SS133	DIODE	
D1263	1N4148M	DIODE	
	or 1SS133	DIODE	
D1271	SLR-342MC3F	LE DIODE	
D1272	SLR-342MC3F	LE DIODE	
R1255	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R1256	QRE141J-102Y	RESISTOR	1kΩ,1/4W
R1257	QRE141J-471Y	RESISTOR	470Ω,1/4W
R1258	QRE141J-563Y	RESISTOR	56kΩ,1/4W
R1259	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1260	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1265	QRE141J-221Y	RESISTOR	220Ω,1/4W
R1266	QRE141J-221Y	RESISTOR	220Ω,1/4W
R1268	QRE141J-331Y	RESISTOR	330Ω,1/4W
R1269	QRE141J-331Y	RESISTOR	330Ω,1/4W
R1278	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
C1251	QERF1CM-476	E CAPACITOR	47μF,16V
C1252	QDYB1CM-103Y	CAPACITOR	0.01μF,16V
C1253	QETN1CM-227	E CAPACITOR	220μF,16V
C1254	QCSB1HJ-470	CAPACITOR	47pF,50V
C1255	QCSB1HJ-330	CAPACITOR	33pF,50V
C1256	QEKJ1HM-106	E CAPACITOR	10μF,50V
C1257	QCBB1HJ-102	CAPACITOR	0.001μF,50V
L1251	QQL29BJ-331Z	COIL	330μH
S1251	QSW0381-001Z	TACT SWITCH,POWER	
S1252	QSW0381-001Z	TACT SWITCH,EJECT	
S1253	QSW0381-001Z	TACT SWITCH,DV SELECT	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
S1254	QSW0381-001Z	TACT SWITCH,DV>>	
S1255	QSW0381-001Z	TACT SWITCH,ALL DUB	
S1256	QSW0381-001Z	TACT SWITCH,<<VHS	
DI1251	QLF0031-002	FL TUBE	
HD1	PQM30038-1-2	LED HOLDER,D1271	
HD2	PQM30038-1-2	LED HOLDER,D1272	
HD3	PQ34949	FDP HOLDER(L),DI1251	
HD4	PQ34950	FDP HOLDER(R),DI1251	
FW1251	QUM032-07A4A4	PARA RIBON WIRE,LED2	
CN1252	QGF1208C1-15	FPC CONNECTOR,(1-15)SW/DISPLAY	

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DISPLAY/SW BOARD ASSEMBLY <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10029-02C1	DISPLAY/SW BOARD ASSY	
IC1201	UPD16312GB(P)	IC	
	or UPD16312GB(M)	IC	
D1201	1N4148M	DIODE	
	or 1SS133	DIODE	
D1202	1N4148M	DIODE	
	or 1SS133	DIODE	
D1203	1N4148M	DIODE	
	or 1SS133	DIODE	
D1204	1N4148M	DIODE	
	or 1SS133	DIODE	
D1205	1N4148M	DIODE	
	or 1SS133	DIODE	
D1207	RD9.1ES/B2/-T2	ZENER DIODE	
D1208	11ES2	DIODE	
D1211	1N4148M	DIODE	
	or 1SS133	DIODE	
D1212	1N4148M	DIODE	
	or 1SS133	DIODE	
D1213	1N4148M	DIODE	
	or 1SS133	DIODE	
D1216	1N4148M	DIODE	
	or 1SS133	DIODE	
D1217	1N4148M	DIODE	
	or 1SS133	DIODE	
R1201	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1202	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1203	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1204	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1205	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R1206	QRE141J-102Y	RESISTOR	1kΩ,1/4W
R1207	QRE141J-471Y	RESISTOR	470Ω,1/4W
R1208	QRE141J-563Y	RESISTOR	56kΩ,1/4W
R1209	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1210	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1211	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R1212	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R1215	QRE141J-221Y	RESISTOR	220Ω,1/4W
R1216	QRE141J-221Y	RESISTOR	220Ω,1/4W
R1218	QRE141J-331Y	RESISTOR	330Ω,1/4W
R1219	QRE141J-331Y	RESISTOR	330Ω,1/4W
R1221	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1222	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1223	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1224	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1228	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
R1229	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
R1230	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
R1231	QRE141J-750Y	RESISTOR	75Ω,1/4W
R1232	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
R1233	QRE141J-750Y	RESISTOR	75Ω,1/4W
C1201	QETN1AM-227	E CAPACITOR	220µF,10V
C1202	QDYB1CM-103Y	CAPACITOR	0.01µF,16V
C1203	QDYB1CM-103Y	CAPACITOR	0.01µF,16V
C1204	QCSB1HJ-470	CAPACITOR	47pF,50V
C1205	QCSB1HJ-330	CAPACITOR	33pF,50V
C1206	QEKJ1HM-106	E CAPACITOR	10µF,50V
C1207	QCBB1HJ-102	CAPACITOR	0.001µF,50V
C1231	QDYB1CM-103Y	CAPACITOR	0.01µF,16V
C1232	QCBB1HJ-681	CAPACITOR	680pF,50V
C1234	QCBB1HJ-681	CAPACITOR	680pF,50V
L1201	QQL29BJ-331Z	COIL	330µH
L1211	QRE141J-101Y	RESISTOR	100Ω,1/4W
L1212	QRE141J-101Y	RESISTOR	100Ω,1/4W
S1201	QSW0381-001Z	TACT SWITCH,SP/LP	
S1202	QSW0381-001Z	TACT SWITCH,REC	
S1203	QSW0381-001Z	TACT SWITCH,PAUSE	
S1204	QSW0381-001Z	TACT SWITCH,CH-	
S1205	QSW0381-001Z	TACT SWITCH,STOP	
S1206	QSW0381-001Z	TACT SWITCH,REW	
S1207	QSW0381-001Z	TACT SWITCH,FF	
S1208	QSW0381-001Z	TACT SWITCH,CH+	
S1209	QSW0381-001Z	TACT SWITCH,PLAY	
S1210	QSW0381-001Z	TACT SWITCH,EXT TIMER STBY	
DI1201	QLF0031-002	FL TUBE	
HD1	PQM30038-1-2	LED HOLDER,D1221	
HD2	PQM30038-1-2	LED HOLDER,D1222	
HD3	PQ34949	FDP HOLDER(L),DI1201	
HD4	PQ34950	FDP HOLDER(R),DI1201	
FW1201	QUM032-07A4A4	PARA RIBON WIRE,LED1	
FW1202	QUM033-07A4A4	PARA RIBON WIRE,SW	
J1201	QND0010-001	S JACK	
J1202	PEMC1126-04	PIN JACK,VIDEO IN	
J1203	PEMC0922-02	PIN JACK(SW),AUDIO(R)	
J1204	PEMC0922-03	PIN JACK(SW),AUDIO(L)	
J1205	PU60659	MINI JACK,R.PAUSE	
CN1201	QGF1208F1-11	FPC CONNECTOR,(1-11)MAIN	
CN1202	QGF1208C1-15	FPC CONNECTOR,(1-15)DISPLAY	
CN1211	QGF1208F1-10	FPC CONNECTOR,(1-10)MAIN	

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SW BOARD ASSEMBLY <36>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW2	LPA10029-02C2	SW BOARD ASSY
S1211	QSW0381-001Z	TACT SWITCH,EJECT VHS
S1212	QSW0381-001Z	TACT SWITCH,VHS SELECT

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LED1 BOARD ASSEMBLY <46>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW3	LPA10029-02C3	LED1 BOARD ASSY
		D1231	SLA-20040-A1	LE DIODE

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DV MAIN BOARD ASSEMBLY <50>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10032-02C1	MAIN BOARD ASSY	
		IC1001	MN1021617FH	IC	
			or MN102F1617HL-61	IC	
		IC1002	UPD6461GS-946-X	IC	
		IC1003	X25057M8-2.7-X	IC	
		IC1004	RS5C314	IC	
		IC1005	S-80823ANNP-W	IC	
		IC1007	TC7ST32F	IC(DIGITAL)	
		IC1012	TC7W14F	IC(DIGITAL)	
		IC1401	M31020MA-153VP	IC	
		IC1402	TC7W14F	IC(DIGITAL)	
		IC2101	AK4518-VF-X	IC	
			or AK4512-VF-X	IC	
		IC2102	NJM2112V	IC	
		IC3001	MN67373	IC(DIGITAL)	
		IC3002	MN47V07AF	IC	
		IC3003	M65500FP	IC(DIGITAL)	
		IC3004	MN41V4260TT-A07	IC(DIGITAL)	
			or GLT441L16-40TC	IC	
		IC3005	AD9057BRS-60-X	IC	
		IC3201	BH7086KV	IC(DIGITAL)	
		IC3202	T9P90EF	IC	
		IC3203	M52387FP	IC	
		IC3204	M52684AFP-XE	IC	
		IC3205	TC7SH08F	IC(DIGITAL)	
		IC3206	TC7SH00F	IC	
		IC3302	TC7S04F	IC(DIGITAL)	
		IC3303	TC7SH08F	IC(DIGITAL)	
		IC3351	UPC1862GS	IC	
		IC3401	JCP8013	IC	
		IC3402	TC4W53F	IC	
		IC3403	TC4W53F	IC	
		IC3404	TC4W53F	IC	
		IC3405	TC4W53F	IC	
		IC3406	TC7ST32F	IC(DIGITAL)	
		IC3407	TC4W53F	IC	
		IC3408	TC4W53F	IC	
		IC3501	AN3741FAP-A	IC(DIGITAL)	
		IC3503	MB88345PF	IC	
		IC3701	NJM2538V	IC	
		IC3702	UPC29L03T	IC	
		IC4301	JCY0112-2	IC	
		IC4302	TMS4C2973-28-X	IC	
		IC4303	TC7SH04F	IC(DIGITAL)	
		IC4304	TC7SH04F	IC(DIGITAL)	
		IC4305	TC7SH04F	IC(DIGITAL)	
		IC4306	TC7SH04F	IC(DIGITAL)	
		IC8001	TSB13LV11PBW	IC(DIGITAL)	
		Q1001	2SC4617/RS/-X	TRANSISTOR	
		Q1002	2SB1302/ST/-X	TRANSISTOR	
		Q1003	DTC144EE	TRANSISTOR	
		Q1004	2SB1302/ST/-X	TRANSISTOR	
		Q1005	DTC144EE	TRANSISTOR	
		Q1006	2SB1302/ST/-X	TRANSISTOR	
		Q1007	DTC144EE	TRANSISTOR	
		Q1009	2SC4617/RS/-X	TRANSISTOR	
	⚠	Q1010	2SB1302/ST/-X	TRANSISTOR	
		Q1011	DTC144EE	TRANSISTOR	
		Q1012	2SB1302/ST/-X	TRANSISTOR	
		Q1013	DTC144EE	TRANSISTOR	
		Q1401	DTA114EE	TRANSISTOR	
		Q1402	UMG3N	TRANSISTOR	
		Q1403	UMC3N	TRANSISTOR	
		Q1404	UMC3N	TRANSISTOR	
		Q1405	2SB1234	TRANSISTOR	
		Q2102	2SC4617/RS/-X	TRANSISTOR	
		Q3201	2SC4081/RS/-X	TRANSISTOR	
		Q3202	2SC4081/RS/-X	TRANSISTOR	
		Q3205	2SC4081/RS/-X	TRANSISTOR	
		Q3301	2SC4081/RS/-X	TRANSISTOR	
		Q3302	2SA1576A/RS/-X	TRANSISTOR	
		Q3303	2SC4081/RS/-X	TRANSISTOR	
		Q3304	2SA1576A/RS/-X	TRANSISTOR	
		Q3307	2SC4081/RS/-X	TRANSISTOR	
		Q3308	2SA1576A/RS/-X	TRANSISTOR	
		Q3401	2SC4081/RS/-X	TRANSISTOR	
		Q3402	2SC4081/RS/-X	TRANSISTOR	
		Q3403	2SA1576A/RS/-X	TRANSISTOR	
		Q3404	2SA1576A/RS/-X	TRANSISTOR	
		Q3405	2SA1576A/RS/-X	TRANSISTOR	
		Q3407	2SC4081/RS/-X	TRANSISTOR	
		Q3408	2SC4081/RS/-X	TRANSISTOR	
		Q3409	2SA1576A/RS/-X	TRANSISTOR	
		Q3412	2SA1576A/RS/-X	TRANSISTOR	
		Q3413	2SA1576A/RS/-X	TRANSISTOR	
		Q3414	2SC4081/RS/-X	TRANSISTOR	
		Q3415	2SC4081/RS/-X	TRANSISTOR	
		Q3416	2SA1576A/RS/-X	TRANSISTOR	
		Q3417	2SC4081/RS/-X	TRANSISTOR	
		Q3420	2SC4081/RS/-X	TRANSISTOR	
		Q3421	2SA1576A/RS/-X	TRANSISTOR	
		Q3422	2SA1576A/RS/-X	TRANSISTOR	
		Q3501	2SC4226/4/-X	TRANSISTOR	
		Q3502	DTC124XE	TRANSISTOR	
		Q3503	2SC4617/QRS/-X	TRANSISTOR	
		Q3504	2SA1774/QRS/-X	TRANSISTOR	
		Q3511	2SA1774/QRS/-X	TRANSISTOR	
		Q3512	DTC144EE	TRANSISTOR	
		Q3513	UMZ1N	PAIR TRANSISTOR	
		Q3701	DTC144EE	TRANSISTOR	
		Q4301	2SA1576A/RS/-X	TRANSISTOR	
		Q4302	2SA1576A/RS/-X	TRANSISTOR	
		Q4303	DTC144WU	TRANSISTOR	
		Q4304	DTC144WU	TRANSISTOR	
		D1001	SB007-03Q-X	SB DIODE	
		D1002	SB007-03Q-X	SB DIODE	
		D3201	1SS355	DIODE	
		R1001	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1003	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R1004	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1007	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1010	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1014	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1015	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1016	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1017	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1018	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1020	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1022	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1025	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R1027	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R1028	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R1029	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R1030	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1031	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1032	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1033	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1034	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1035	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R1037	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1038	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1040	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1041	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R1042	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1043	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1044	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1045	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R1046	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1047	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R1048	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1050	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R1051	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1052	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1053	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1054	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1062	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1064	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1402	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R1403	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R1404	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R1405	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1406	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1407	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1408	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1409	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1410	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1411	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1412	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1413	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1414	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1415	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R1416	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R1417	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1418	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1419	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1420	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1421	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1422	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R1423	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1424	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R1425	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1426	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R1427	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R1428	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R1429	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
R1430	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R1431	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1432	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1433	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R1434	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R1438	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R1439	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R1440	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R1450	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
R1451	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R2101	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2102	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R2103	NRSA63J-106X	MG RESISTOR	10MΩ,1/16W
R2104	NRSA63J-106X	MG RESISTOR	10MΩ,1/16W
R2105	NRSA63J-106X	MG RESISTOR	10MΩ,1/16W
R2106	NRSA63J-106X	MG RESISTOR	10MΩ,1/16W
R2107	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2108	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R2109	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R2110	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R2111	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R2112	NRSA63J-912X	MG RESISTOR	9.1kΩ,1/16W
R2114	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2115	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R2116	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R2117	NRSA63J-912X	MG RESISTOR	9.1kΩ,1/16W
R2118	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2119	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2121	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R2123	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2124	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2125	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2126	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2127	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2128	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
R2130	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
R2134	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R2135	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3001	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3002	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3003	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3004	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3005	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3006	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3007	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3008	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R3009	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R3010	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3011	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3012	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3013	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3014	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3015	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3016	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3017	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3018	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3019	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
R3020	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3021	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
R3022	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R3023	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3201	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3202	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3203	NRSA63J-113X	MG RESISTOR	11kΩ,1/16W
R3204	NRSA63J-912X	MG RESISTOR	9.1kΩ,1/16W
R3205	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3206	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R3207	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R3208	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3209	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R3210	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3211	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R3212	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3213	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3214	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3215	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R3216	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3217	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R3218	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R3219	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3220	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3221	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3222	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3223	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3224	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3225	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3226	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3227	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R3228	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3229	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3230	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3231	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3232	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3233	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3234	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3235	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R3236	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R3237	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3238	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
R3241	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R3242	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3243	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R3245	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3247	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3250	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3251	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3252	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3253	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3254	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3255	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3256	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R3257	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3258	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3259	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3260	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3261	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3262	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R3263	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3264	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3265	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
R3266	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R3267	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3268	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3269	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R3270	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3271	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3272	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R3273	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3274	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3275	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3276	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3277	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3278	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3279	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3280	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3281	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3282	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3283	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3284	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3285	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3286	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3287	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3288	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R3289	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3290	NRSA63J-564X	MG RESISTOR	560kΩ,1/16W
R3301	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3302	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3305	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3306	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3307	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3308	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3309	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3310	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3315	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3316	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3317	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3318	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3322	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3324	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3325	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3353	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3354	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R3355	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
R3356	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3357	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3363	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3364	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3365	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3366	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3367	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R3368	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R3369	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3370	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3371	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R3372	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3401	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R3402	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3403	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R3404	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3405	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3406	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3407	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3408	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3409	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3410	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
R3411	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3412	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3413	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3414	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3415	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3416	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3417	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3420	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3421	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3422	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3423	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3430	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R3431	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3432	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3433	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3434	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3435	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3436	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3437	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3438	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3439	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3440	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3441	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3442	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3443	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3444	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3445	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3446	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3447	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3448	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3449	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3451	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3454	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3456	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3459	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3460	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3462	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3464	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3466	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3467	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3468	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3471	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3473	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3475	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3476	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3477	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3485	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
R3486	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3488	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R3491	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3502	NRSA63J-181X	MG RESISTOR	180Ω,1/16W
R3503	NRSA63J-301X	MG RESISTOR	300Ω,1/16W
R3504	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3505	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3507	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3508	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3509	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3510	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3511	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3513	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3514	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3515	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3516	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R3517	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R3518	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R3519	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R3520	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3521	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3522	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3523	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3524	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3525	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3526	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R3527	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3528	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3529	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R3530	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3533	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3534	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R3535	NRSA63J-564X	MG RESISTOR	560kΩ,1/16W
R3536	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3537	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R3538	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
R3539	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3540	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3541	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3564	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R3565	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R3566	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3567	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3568	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3701	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3702	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3703	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3704	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
R3705	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3706	NRSA63J-225X	MG RESISTOR	2.2MΩ,1/16W
R3707	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R3708	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3717	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
R3718	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4301	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4302	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R4303	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4321	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R4322	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R4323	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R4324	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R4325	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4326	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4327	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R4328	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R4329	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4331	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R4332	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R8001	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8002	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8003	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8004	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8005	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8006	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R8008	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8009	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8010	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8011	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8012	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8013	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8015	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8016	NRSA63J-270X	MG RESISTOR	27Ω,1/16W
		R8017	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8018	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8019	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8023	NRSA63J-394X	MG RESISTOR	390kΩ,1/16W
		R8024	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R8025	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R8026	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R8031	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8032	NRVA63D-512X	CMF RESISTOR	5.1kΩ,1/16W
		R8033	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
		R8034	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
		R8035	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
		R8036	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
		R8037	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8038	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		RA1001	NRZ0040-102X	NET RESISTOR	
		RA1002	NRZ0040-102X	NET RESISTOR	
		RA1003	NRZ0040-104X	NET RESISTOR	
		RA1004	NRZ0040-104X	NET RESISTOR	
		RA1005	NRZ0040-102X	NET RESISTOR	
		RA1401	NRZ0040-102X	NET RESISTOR	
		RA1402	NRZ0040-102X	NET RESISTOR	
		RA1403	NRZ0040-473X	NET RESISTOR	
		RA4301	NRZ0040-101X	NET RESISTOR	
		RA4302	NRZ0040-101X	NET RESISTOR	
		RA4303	NRZ0040-101X	NET RESISTOR	
		C1003	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1005	NDC31HJ-330X	CAPACITOR	33pF,50V
		C1006	NDC31HJ-150X	CAPACITOR	15pF,50V
		C1008	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1009	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C1010	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1012	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1013	NDC31HJ-270X	CAPACITOR	27pF,50V
		C1014	NDC31HJ-180X	CAPACITOR	18pF,50V
		C1015	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1017	NCF31AZ-105X	CAPACITOR	1μF,10V
		C1019	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1021	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1022	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1023	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C1024	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C1025	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1026	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C1027	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C1028	NCB31HK-103X	CAPACITOR	0.01μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1030	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1035	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C1036	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1101	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1105	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1106	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1107	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1108	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C1401	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C1402	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C1403	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1404	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1405	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1406	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1407	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1408	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C1409	NDC31HJ-120X	CAPACITOR	12pF,50V
		C1410	NDC31HJ-120X	CAPACITOR	12pF,50V
		C1411	NCB31CK-223X	CAPACITOR	0.022μF,16V
		C1412	NCB31CK-223X	CAPACITOR	0.022μF,16V
		C1413	NCB31CK-223X	CAPACITOR	0.022μF,16V
		C1414	NCB31CK-223X	CAPACITOR	0.022μF,16V
		C1415	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C1416	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C2101	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C2102	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C2103	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2104	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2105	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C2106	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2107	NCF21CZ-105X	CAPACITOR	1μF,16V
		C2108	NCF21CZ-105X	CAPACITOR	1μF,16V
		C2109	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2110	NCB31HK-222X	CAPACITOR	0.0022μF,50V
		C2111	NCB31HK-222X	CAPACITOR	0.0022μF,50V
		C2112	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C2113	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C2114	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2115	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2116	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C2117	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2118	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2119	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C2120	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C2122	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C2124	NCB31HK-221X	CAPACITOR	220pF,50V
		C2125	NCB31HK-152X	CAPACITOR	0.0015μF,50V
		C2126	NCB31HK-221X	CAPACITOR	220pF,50V
		C2127	NCB31HK-472X	CAPACITOR	0.0047μF,50V
		C2128	NCB31HK-472X	CAPACITOR	0.0047μF,50V
		C2129	NBE40JM-476X	T CAPACITOR	47μF,6.3V
		C2130	NBE40JM-476X	T CAPACITOR	47μF,6.3V
		C2131	NCB31HK-152X	CAPACITOR	0.0015μF,50V
		C3001	NDC31HJ-5R0X	CAPACITOR	5pF,50V
		C3002	NDC31HJ-5R0X	CAPACITOR	5pF,50V
		C3003	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3004	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3005	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3006	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3007	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3008	NCB31HK-103X	CAPACITOR	0.01μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3009	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3010	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3011	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3012	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3013	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3014	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3016	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3017	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3018	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3019	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3020	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3021	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3023	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3024	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3025	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3026	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3027	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3028	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3029	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3030	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3031	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3032	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3033	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3034	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3035	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3036	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3037	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3038	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3039	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3040	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3041	NDC31HJ-270X	CAPACITOR	27pF,50V
		C3201	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3202	NDC31HJ-101X	CAPACITOR	100pF,50V
		C3203	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3204	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3205	NDC31HJ-101X	CAPACITOR	100pF,50V
		C3206	NDC31HJ-100X	CAPACITOR	10pF,50V
		C3207	NDC31HJ-150X	CAPACITOR	15pF,50V
		C3208	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3209	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3210	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3211	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3212	NCB31HK-561X	CAPACITOR	560pF,50V
		C3213	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3214	NDC31HJ-5R0X	CAPACITOR	5pF,50V
		C3215	NDC31HJ-100X	CAPACITOR	10pF,50V
		C3216	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3217	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3218	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3219	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3220	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3221	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3222	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3223	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3224	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3225	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3226	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3227	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3228	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3229	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3230	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3231	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3232	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3233	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3234	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3235	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3236	NDC31HJ-150X	CAPACITOR	15pF,50V
		C3238	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3239	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3240	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3241	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3242	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3243	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3244	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3245	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3246	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3247	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3249	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3250	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3251	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3252	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3253	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3254	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3255	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3256	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3257	NDC31HJ-101X	CAPACITOR	100pF,50V
		C3258	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C3259	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3260	NCB31CK-473X	CAPACITOR	0.047μF,16V
		C3261	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3262	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C3263	NBP21VM-684X	T CAPACITOR	0.68μF,35V
		C3264	NCB31HK-681X	CAPACITOR	680pF,50V
		C3265	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3266	NDC31HJ-270X	CAPACITOR	27pF,50V
		C3267	NCB31CK-273X	CAPACITOR	0.027μF,16V
		C3268	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3269	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3272	NCB31HK-152X	CAPACITOR	0.0015μF,50V
		C3273	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3274	NCB31HK-102X	CAPACITOR	0.001μF,50V
		C3275	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3276	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3277	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3278	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3279	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C3280	NBE21AM-335X	T CAPACITOR	3.3μF,10V
		C3281	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3282	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3283	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3284	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3285	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3287	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3288	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3289	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3290	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3291	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3292	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3293	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3294	NBP21CM-225X	T CAPACITOR	2.2μF,16V
		C3295	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3296	NCB31EK-103X	CAPACITOR	0.01μF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3297	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3298	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3299	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3304	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3305	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3306	NDC31HJ-470X	CAPACITOR	47pF,50V
		C3307	NDC31HJ-680X	CAPACITOR	68pF,50V
		C3310	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3311	NDC31HJ-101X	CAPACITOR	100pF,50V
		C3312	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3351	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3352	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3353	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3354	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3355	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C3356	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3357	NCB31EK-223X	CAPACITOR	0.022μF,25V
		C3358	NBP21CM-105X	T CAPACITOR	1μF,16V
		C3359	NDC31HJ-220X	CAPACITOR	22pF,50V
		C3360	NDC31HJ-180X	CAPACITOR	18pF,50V
		C3361	NDC31HJ-680X	CAPACITOR	68pF,50V
		C3362	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3363	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C3364	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3365	NCB31EK-153X	CAPACITOR	0.015μF,25V
		C3366	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C3367	NCB31HK-102X	CAPACITOR	0.001μF,50V
		C3368	NDC31HJ-221X	CAPACITOR	220pF,50V
		C3369	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3370	NCB31HK-681X	CAPACITOR	680pF,50V
		C3371	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C3372	NDC31HJ-102X	CAPACITOR	0.001μF,50V
		C3373	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
		C3374	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3402	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C3403	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3404	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3405	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3406	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3407	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3408	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3409	NBE21AM-335X	T CAPACITOR	3.3μF,10V
		C3410	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3411	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3412	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3413	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3414	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3415	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3419	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3420	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3421	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3422	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3423	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3424	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C3425	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3426	NDC31HJ-390X	CAPACITOR	39pF,50V
		C3427	NDC31HJ-330X	CAPACITOR	33pF,50V
		C3428	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3429	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3430	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C3431	NCB31CK-104X	CAPACITOR	0.1μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3432	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3433	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C3434	NCB31EK-472X	CAPACITOR	0.0047μF,25V
		C3435	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C3436	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3437	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3438	NEA70JM-107X	E CAPACITOR	100μF,6.3V
		C3439	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C3440	NDC31HJ-100X	CAPACITOR	10pF,50V
		C3441	NDC31HJ-390X	CAPACITOR	39pF,50V
		C3442	NDC31HJ-330X	CAPACITOR	33pF,50V
		C3443	NDC31HJ-8R0X	CAPACITOR	8pF,50V
		C3444	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3445	NDC31HJ-390X	CAPACITOR	39pF,50V
		C3446	NDC31HJ-330X	CAPACITOR	33pF,50V
		C3501	NDC31HJ-220X	CAPACITOR	22pF,50V
		C3502	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3503	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3505	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3506	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3507	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3508	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3509	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3510	NCB31HK-681X	CAPACITOR	680pF,50V
		C3511	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3512	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3513	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3514	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3515	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3516	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3517	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3518	NCF31CZ-104X	CAPACITOR	0.1μF,16V
		C3519	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3520	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3521	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3522	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3523	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3524	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3525	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3526	NCB31CK-273X	CAPACITOR	0.027μF,16V
		C3527	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3528	NCB21AK-105X	CAPACITOR	1μF,10V
		C3529	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3531	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3532	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3533	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3534	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3537	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3538	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3539	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3540	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3541	NDC31HJ-151X	CAPACITOR	150pF,50V
		C3542	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3543	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3544	NCB31HK-152X	CAPACITOR	0.0015μF,50V
		C3545	NCF21AZ-225X	CAPACITOR	2.2μF,10V
		C3546	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C3547	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3579	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3580	NEA70JM-226X	E CAPACITOR	22μF,6.3V
		C3581	NCB31HK-103X	CAPACITOR	0.01μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3582	NCB31HK-103X	CAPACITOR	0.01μF,50V
C3583	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C3584	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C3701	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3702	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C3703	NCB30JK-474X	CAPACITOR	0.47μF,6.3V
C3704	NEA70JM-476X	E CAPACITOR	47μF,6.3V
C3705	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3706	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C3707	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3708	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3709	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3710	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3711	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3712	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3713	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C3717	NDC31HJ-220X	CAPACITOR	22pF,50V
C3718	NDC31HJ-220X	CAPACITOR	22pF,50V
C4202	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4203	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4204	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4205	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4206	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4207	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4208	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4209	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4210	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4301	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4302	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C4303	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C4304	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4310	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4311	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4312	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4313	NDC31HJ-331X	CAPACITOR	330pF,50V
C4314	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4315	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4316	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4317	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4318	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4321	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4322	NDC31HJ-100X	CAPACITOR	10pF,50V
C4323	NDC31HJ-100X	CAPACITOR	10pF,50V
C4324	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C4325	NDC31HJ-1R0X	CAPACITOR	1pF,50V
C4326	NDC31HJ-100X	CAPACITOR	10pF,50V
C8001	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C8002	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8003	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C8004	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8005	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8006	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8007	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8008	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8009	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8010	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8011	NCB31HK-102X	CAPACITOR	0.001μF,50V
C8012	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8013	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8014	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C8015	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8016	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8017	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8018	NCB31HK-103X	CAPACITOR	0.01μF,50V
C8019	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C8020	NDC31HJ-271X	CAPACITOR	270pF,50V
C8021	NDC31HJ-5R0X	CAPACITOR	5pF,50V
C8022	NDC31HJ-6R0X	CAPACITOR	6pF,50V
L1002	NQL17CM-390X	COIL	39μH
L1005	NQL184J-390X	COIL	39μH
L1011	NQL17CM-390X	COIL	39μH
L1012	NQL17CM-390X	COIL	39μH
L1013	NQL044K-220X	COIL	22μH
L1014	NQL32CM-330X	COIL	33μH
L1016	NQL044K-470X	COIL	47μH
L1401	NQL044K-100X	COIL	10μH
L2101	NQL144K-100X	COIL	10μH
L2102	NQL144K-100X	COIL	10μH
L3001	NQL302N-100X	COIL	10μH
L3002	NQL302N-100X	COIL	10μH
L3003	NQL302N-100X	COIL	10μH
L3005	NQL302N-100X	COIL	10μH
L3006	NQL302N-100X	COIL	10μH
L3007	NQL302N-100X	COIL	10μH
L3009	NQL302N-100X	COIL	10μH
L3010	NQL302N-100X	COIL	10μH
L3201	NQL044K-100X	COIL	10μH
L3202	NQL024J-120X	COIL	12μH
L3203	NQL044K-100X	COIL	10μH
L3204	NQL044K-100X	COIL	10μH
L3205	NQL044K-100X	COIL	10μH
L3206	NQL024J-5R6X	COIL	5.6μH
L3207	NRS181J-0R0X	MG RESISTOR	0Ω,1/8W
L3208	NQL044K-680X	COIL	68μH
L3209	NQL044K-100X	COIL	10μH
L3210	NQL044K-100X	COIL	10μH
L3211	NQL044K-100X	COIL	10μH
L3212	NQL044K-100X	COIL	10μH
L3213	NQL044K-100X	COIL	10μH
L3301	NQL024J-150X	COIL	15μH
L3302	NQL044K-100X	COIL	10μH
L3303	NQL044K-100X	COIL	10μH
L3304	NQL044K-100X	COIL	10μH
L3401	NQL044K-100X	COIL	10μH
L3402	NQL044K-100X	COIL	10μH
L3405	NQL024J-150X	COIL	15μH
L3406	NQL024J-330X	COIL	33μH
L3407	NQL044K-100X	COIL	10μH
L3408	NQL024J-150X	COIL	15μH
L3409	NQL024J-330X	COIL	33μH
L3410	NQL024J-150X	COIL	15μH
L3411	NQL024J-330X	COIL	33μH
L3501	NQL302N-100X	COIL	10μH
L3502	NQL302N-100X	COIL	10μH
L3511	NQL044K-470X	COIL	47μH
L3512	NQL044K-470X	COIL	47μH
L3513	NQL302N-100X	COIL	10μH
L3701	NQL044K-100X	COIL	10μH
L8001	NQL302N-100X	COIL	10μH
L8002	NQL302N-100X	COIL	10μH
L8003	NQL302N-100X	COIL	10μH
L8004	NQR0276-001X	COIL	10μH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		CF3201	NAX0227-001	VCO
		CF3301	NAX0227-001	VCO
		LC1001	PELN1148-223X	NOISE FILTER
		LC1002	PELN1148-223X	NOISE FILTER
		LC1003	PELN0926-223Z	NOISE FILTER
		LC1004	PELN1148-223X	NOISE FILTER
		LC1006	PELN0969-04Y	NOISE FILTER
		LC3501	PELN0926-223Z	NOISE FILTER
		LC3502	PELN0926-223Z	NOISE FILTER
		X1001	NAX0200-001X	C OSCILLATOR
		X1002	NAX0005-001X	CRYSTAL RESONATOR
		X1401	NAX0218-001X	CRYSTAL RESONATOR
		X3001	NAX0206-001X	CRYSTAL RESONATOR
		X3301	QAX0586-001	CRYSTAL RESONATOR
		X4301	NAX0218-001X	CRYSTAL RESONATOR
		X4302	NAX0266-001X	CRYSTAL RESONATOR
		K1001	PELN0984-150Y	NOISE FILTER
		K1002	NQR0129-002X	FERRITE BEAD
		K1401	PELN0984-150Y	NOISE FILTER
		K1402	NQR0129-002X	FERRITE BEAD
		K1403	NQR0129-002X	FERRITE BEAD
		K1404	PELN0968-600Y	NOISE FILTER
		K4301	PELN0984-150Y	NOISE FILTER
		K4302	NQR0227-004X	FERRITE CORE
		K4304	NQR0227-004X	FERRITE CORE
		K4305	NQR0227-004X	FERRITE CORE
		K4306	NQR0227-004X	FERRITE CORE
		K4308	NQR0227-004X	FERRITE CORE
		K8001	NQR0129-002X	FERRITE BEAD
		OT1	PU59915-105	#500SPACER0.01
		J8001	QNZ0097-001	D CONNECTOR,DV JACK
		CN1001	QGF1019C1-10X	FPC CONNECTOR,(1-10)CPU
		CN1002	QGA2001F2-07X	CONNECTOR,(1-7)REG
		CN1004	QGB0801L1-26X	CONNECTOR,(1-26)JIG
		CN1401	QGF0503C1-15V	FFC/FPC CONNECTOR,(1-15)SENSOR
		CN1402	QGF0503C1-20X	FFC/FPC CONNECTOR,(1-20)PRE/REC MDA
		CN2101	QGF1019C1-08X	FPC CONNECTOR,(1-8)AUDIO
		CN3501	QGF0503C1-20X	FFC/FPC CONNECTOR,(1-20)PRE/REC MDA
		CN3701	QGA2001F2-09X	CONNECTOR,(1-9)TERMINAL

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LED2 BOARD ASSEMBLY <90>

		PW4	LPA10029-02C4	LED2 BOARD ASSY
		D1281	SLA-20040-A1	LE DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION